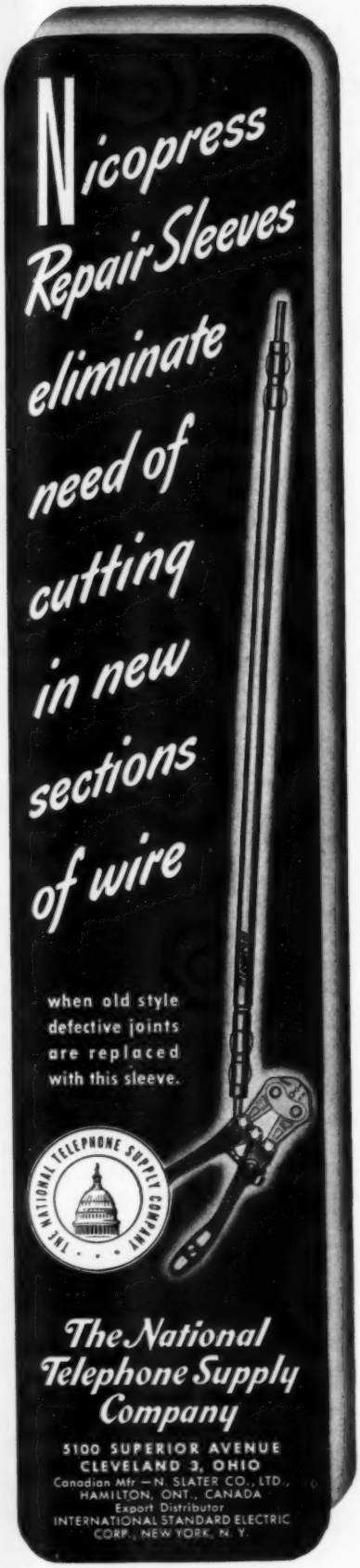
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TELEPHONY

The Journal of the Telephone Industry

AUGUST 19, 1944

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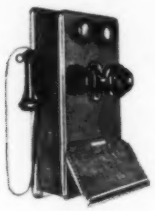

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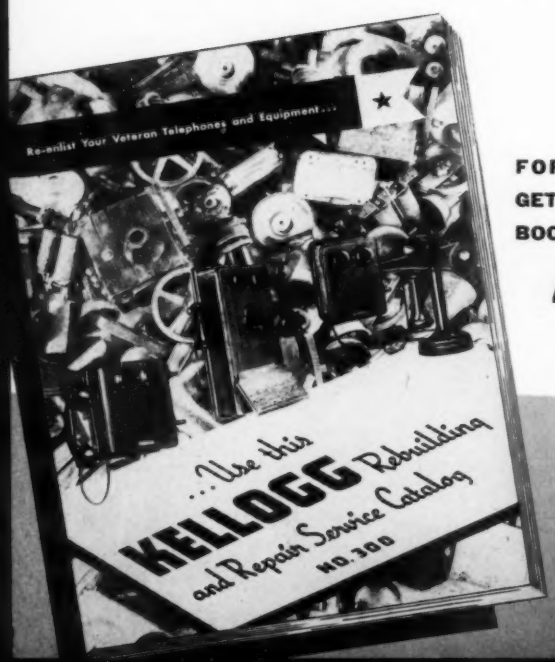

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TOLL RATES GO DOWN; OTHER COSTS RISE

SOMETIMES the telephone industry fails to publicize pertinent facts about the business which would make deep impressions on the minds of those outside the industry.

A case at point is the recent article published by *Public Utilities Fortnightly*, which compared the decreasing cost of telephone service over the past several years with the rising cost of food, clothing and household furnishings. As this article and its illustrations are of the utmost interest to the telephone fraternity, the text of the full article is published below:

"The telephone industry of the United States, including both the so-called Bell System companies, controlled by the American Telephone & Telegraph Co., and the American Independent telephone industry, have established an enviable record for serving more people at less cost with constantly improved service than any other country in the world. Indeed, the total number of telephones which can be interconnected in public service in the United States is estimated at more than 26,000,000 subscriber stations in 1943 for both the Bell and Independent industries, or approximately double the number of telephones in 1925.

"Of equal interest, however, is the increasing use to which the telephone is being put, especially under the stress of wartime conditions. *Chart I* shows the steady growth in annual telephone conversations from less than 25 billion calls in 1937 to approximately 31⅓ billion calls in 1943.

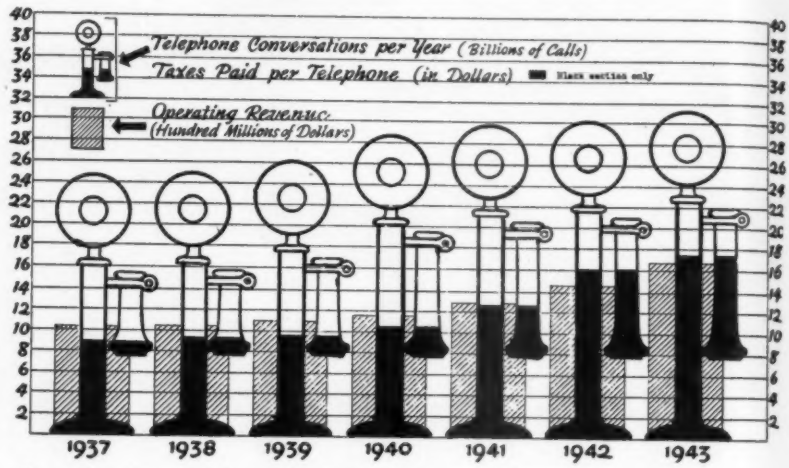
"Astonishing also is the increase in the average taxes paid per telephone to federal and local governments. This figure had risen from approximately $9 per telephone in 1937 to $17.55 per telephone in 1943. The revenue of the Bell System, on the other hand, did not increase proportionately. From little more than $1,000,000,000 in 1937, Bell System revenue had increased $1,680,000,000 in 1943.

"Much of the increase in telephone traffic is due to the impact of the war, especially in the matter of long distance conversation. In 1935 the Bell System had handled approximately only 35,000,000 long distance calls. In 1943 it handled nearly 150,000,000.

"*Chart II* shows the constant reduction in the cost of long distance service to the American people, taking an average station-to-station rate for a three-minute call between the 25 largest American cities. (Average airline distance 937 miles.) The rate had dropped from $7.17 in 1916 to $2.10 in 1943.

"And this was only in the station-to-station classification. Similar reductions have been made in various other classes of service, including person-to-

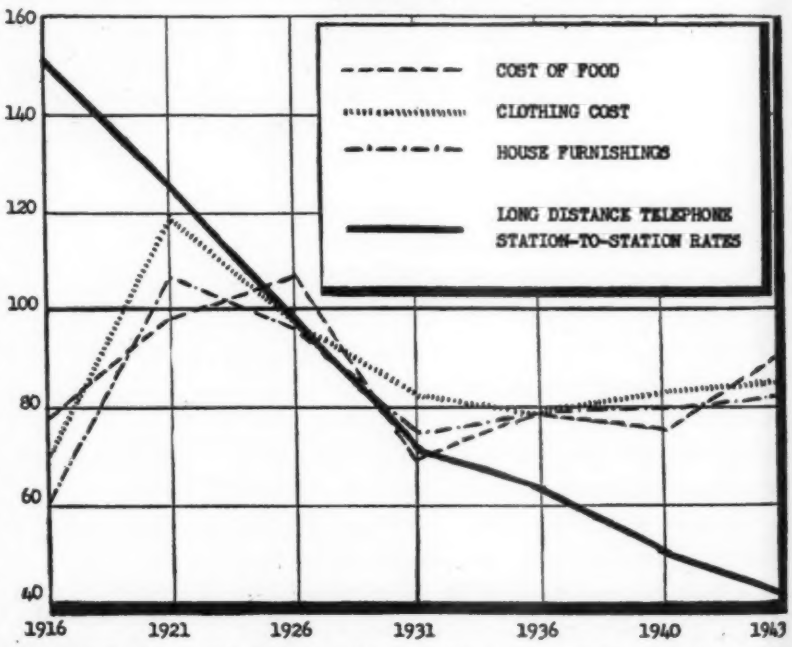
COMPARATIVE GROWTH OF TELEPHONE TRAFFIC, INDUSTRIAL REVENUES, AND TAXES PAID FOR THE BELL SYSTEM



Source: Annual reports of the American Telephone and Telegraph Company

CHART I

COMPARATIVE TREND IN TELEPHONE TOLL CALL COSTS AND COST OF LIVING IN THE UNITED STATES
(1923-25=100)



Source: Indices for cost of food, clothing, and house furnishings from U. S. Bureau of Labor Statistics data on "Cost of Living in Typical American Cities," adjusted to 1923-25 basis. Indices on long-distance telephone station-to-station rates based on 3-minute calls between twenty-five of the largest cities in the United States—average air-line distance 937 miles.

CHART II

person calls, Sunday calls, and the charge for overtime. The evening rate has been lowered and the hours extended.

"The Federal Communications Commission, since its establishment in 1934, has been working constantly with the telephone industry in a successful effort to bring down the cost of interstate telephone service as much as possible. A dollar spent today, compared with what it would buy in 1916, would bring the average American consumer 28 per cent less food, 35 per cent less clothing, 40 per cent less house furnishings, but 216 per cent more long distance telephone service.

"The Federal Communications Commission estimates that altogether $90,000,000 in reductions have been made in various classes of interstate telephone service since 1935, and this would even amount to as much as $200,000,000 if based on 1934 rates and giving due consideration to the increased volume of business.

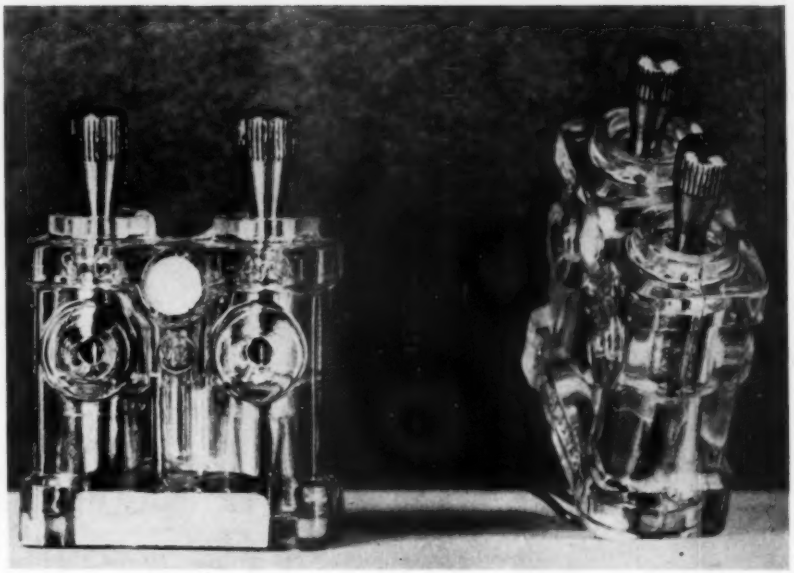
"Reductions in local exchange rates have also been made in recent years but less spectacularly because of the peculiarities of telephone economics which result in increased operating expenses with the increased amount of subscriber stations and switchboard traffic, which in turn increases, of course, the value of the service to the individual subscriber."

V V

New Army Switching Unit Replaces Bulky Boards

A new telephone switching unit of amazing lightness and compactness makes it possible for Army communications men to set up emergency field switchboards in place of the bulky switchboards hitherto required. The Adapter Plug U-4/GT, as the unit is called, may be used for terminating a local battery telephone line. Several plugs used together, along with a field telephone for the operator's set, provide a workable switchboard substitute which may be set up rapidly on a branch of a tree or any support that presents itself.

The U-4/GT weighs only one ounce, the weight of a letter carried for a three-cent stamp, and the bulk is so small that the operator can easily carry a dozen or two of them in his pocket or in a pouch attached to his cartridge belt. This enables him to carry the "makings" to many a hot spot where he could not carry a battery switchboard. The unit is not only of tiny proportions, but also is moisture-proof, making it invaluable for jungle or mountain operations, for beach landings in tropical, rain-drenched areas and for airborne operations behind the enemy lines. It was developed by the Signal Corps, Army Service Forces.



New Signal Corps Adapter Plug U-4/GT

The plug consists of a small transparent plastic body with fasteners for line connections, a neon lamp that responds to ringing signals and two combination jacks and plugs for tandem connections between adapter plugs. The resistance and neon lamp are inside the plastic body, making them virtually impervious to moisture and fungus attacks. A luminescent identification plate, on which the operator may write the line number, is embedded in the plastic,

The emergency switchboard is remarkably flexible in service. The operator can make not only individual connections but also conference connections by calling individually the parties desired and connecting the adapter plugs in tandem. When a conversation has been concluded, the parties flash the operator who then disconnects the plugs.

The U-4/GT was developed in response to a most elementary need, felt especially in the Pacific war theatre, of substituting a visual signal for the bell signal. The latter could be heard from considerable distances by enemy snipers. Its greater use for building substitute emergency switchboards was a by-product, of unforeseen importance. The visual signal is simple. The operator attaches the field wire pair entering his outpost to an adapter plug and connects his telephone by a short length of field wire to another adapter plug. Incoming calls flash the lamp in the first plug and this signals the operator who then makes the connection with his telephone set.

The new adapter plug has been refined and improved from the early Signal Corps laboratory models and is now being procured for use in various war theatres. It will be of great practical aid in "getting the message through."

V V

Did You Know?

When told by an American Army nurse that people in the United States are accustomed to having their milk and newspapers delivered to their door each morning and that "if you need something and don't want to go out, you just telephone a store and they bring it," a skeptical Albanian exclaimed, "Madam, this talk is crazy."

* * *

In that great "cross-roads of the world," Times Square in New York City, telephone users make an average of about 370,000 local and long distance calls a day from nearly 25,000 telephones, the public telephones there being the busiest in the city.

* * *

The American Telephone & Telegraph Co. has more than 650,000 stockholders, 60,000 of whom are Bell employes.

* * *

There are 102 million local telephone calls and four million long distance calls a day in the United States.

* * *

That the U. S. Army Signal Corps, with 280,000 men and 28,000 officers, is now twice the size of the former regular Army in peacetime?

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FRANCHISE TAXES ARE UNFAIR TO INDUSTRY

CONSIDERABLE concern is being experienced by utilities, especially telephone companies, by the increasing demands of municipalities for a percentage of their gross revenues as a consideration for granting franchise operating rights. Fanchises containing this provision have been consistently unacceptable to telephone companies which have preferred to be without specific operating rights rather than to accept one which would imperil their financial stability.

Irrespective of existing franchises in effect, municipalities, in some instances, have adopted general ordinances imposing a levy based on a percentage of the receipts of all wire owning companies. A tax on all poles of utility companies situated within the corporate limits of the municipality and pole inspection fees have also been imposed in an effort to secure addditional revenue to bolster municipal finances. Of late, telephone companies, particularly those situated in territories where franchises were required for the operation of their properties, have been frequently confronted with such unreasonable demands from municipalities.

In the past, exchange telephone service for municipal business without charge, which concessions, in some cases, have been subject to much abuse on the part of city officials, has usually been furnished and has been considered an equitable consideration for operating franchises. The size of the community, the extent of the telephone service rendered, and the local telephone requirements of the municipality generally are the factors considered in the determination of the amount of concession telephone service given. In addition, municipalities in many instances are given free contact privileges on telephone company poles for police and fire alarm distributing systems.

But perhaps of even greater compensatory value to any municipality, is the fact that the telephone company is operating in the community. This factor is generally overlooked. There is no doubt that, if a municipality were without the services of a telephone company today, its citizens unable to communicate with each other and with other communities, attractive offers and concessions would be made by the municipality to interest a telephone company in establishing telephone service for the benefit of its citizens. Thus, a municipality, by taking steps to assure the continued rendering of efficient service by a telephone company already operating in the community as, for example, the grant of operating rights on a reasonable basis, is procuring an exceedingly valuable consideration from the company for the benefit of its citizens.

If, on the other hand, a municipality makes unreasonable demands, such as those in question, on the telephone company serving its citizens, one of several things may result, any of which would affect adversely the interests of its citizens: Either the telephone company may find it impossible to operate profitably in the community, in which event the service would be impaired or the company would be forced to abandon service in the community, or higher rates for the service would be required.

The current trend of imposing taxes in the form of a percentage of gross revenues, a tax on poles and inspection fees is confronting telephone companies with serious financial and operating problems. These imposts are in addition, of course, to the substantial amounts alloted to municipalities of the capital stock, personal property and real estate taxes collected from utilities.

With telephone companies endeavoring to meet their current and postwar responsibilities to render adequate service, added tax burdens and litigation expenses arising from unreasonable local demands by municipalities will do much to impair the efforts of the companies. While some municipalities place a high valuation on the contribution being made by telephone companies in rendering essential service in their communities, others fail to sense the interdependence which always exists between the municipality and the company serving it.

The position of the industry should be made clear in respect to the levying of such taxes. A considerable number of telephone companies now have insufficient revenues, and any additional tax burdens are entirely unsupportable under existing rate structures.

If municipalities persist in their efforts to lay claim to a percentage of the earnings of telephone companies as a means of collecting revenues for additional municipal spending, the results will be far reaching. The future financing of such companies will be of little interest to prospective security holders if municipalities are to have a prior claim on the operating revenues of telephone companies.

SMALL EXCHANGE CIRCUIT ANALYSIS

By Harry E. Chapman

Chief Dial Switchman, Intra-State Telephone Co., Galesburg, Ill.

THIS chapter will describe Leich Electric Co. Circuit C-4804. This circuit may be adapted for use in conjunction with a dial exchange by the use of an additional relay in the cord circuit to disconnect all apparatus except the front cord over which dial impulses are sent to the main exchange. This relay is shown as (A) in *Fig. 1.*

It will be noted that the sleeve of the back cord is also opened with the operation of this relay, also that the relay is connected in the circuit between the front ringing key and that part of the circuit where the operator's set is connected to the cord circuit. This arrangement isolates the operator circuit and the cord circuit proper from the dial circuit. However, due to the fact that relay (A) operates each time the dial wheel is rotated, considerable clicking would result in the operator's receiver. This objection is overcome by the addition of a slow action relay in the dial circuit which will be discussed in more detail later.

From *Fig. 1* it will be noted that the dial is connected into the cord circuit by the operation of the operator's listening key which controls relay (A) of

PART IX. The eighth article in this series was published in the July 1 issue, page 9.

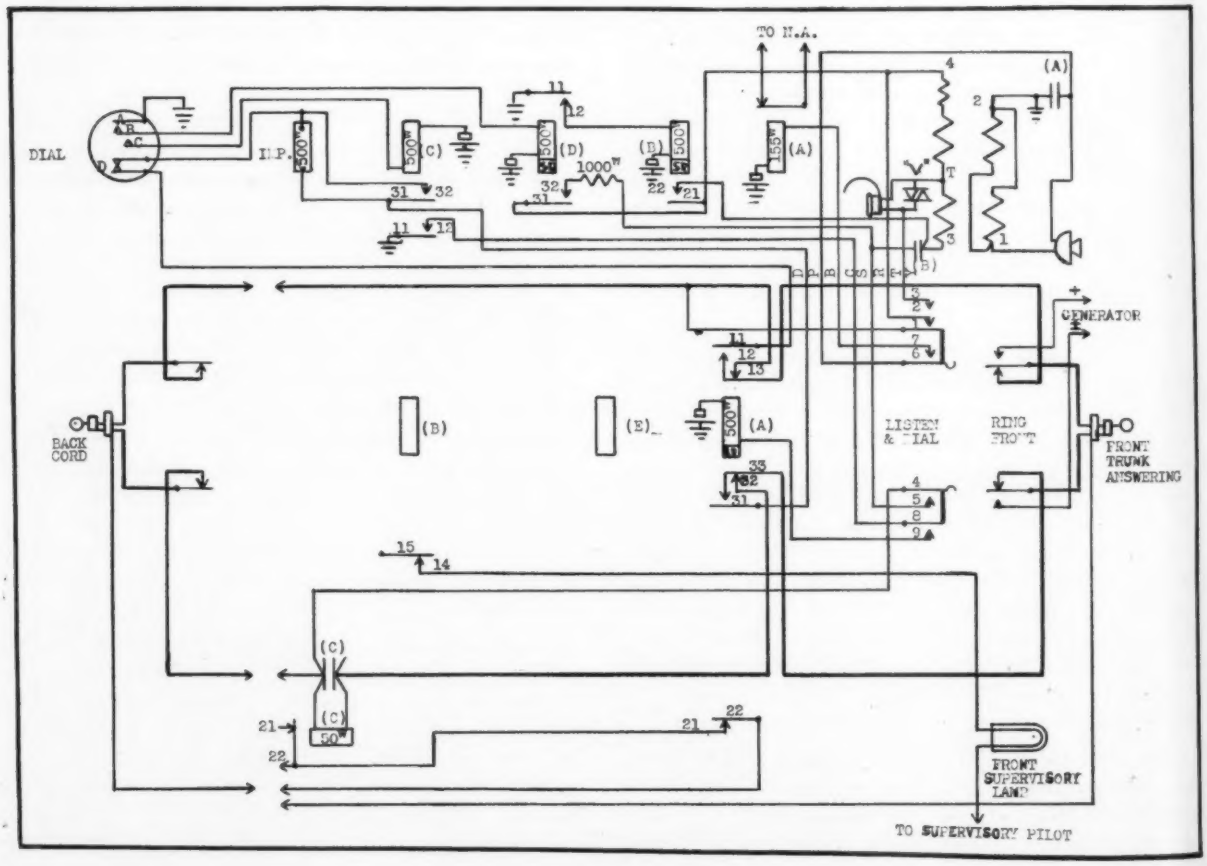


FIG. 1

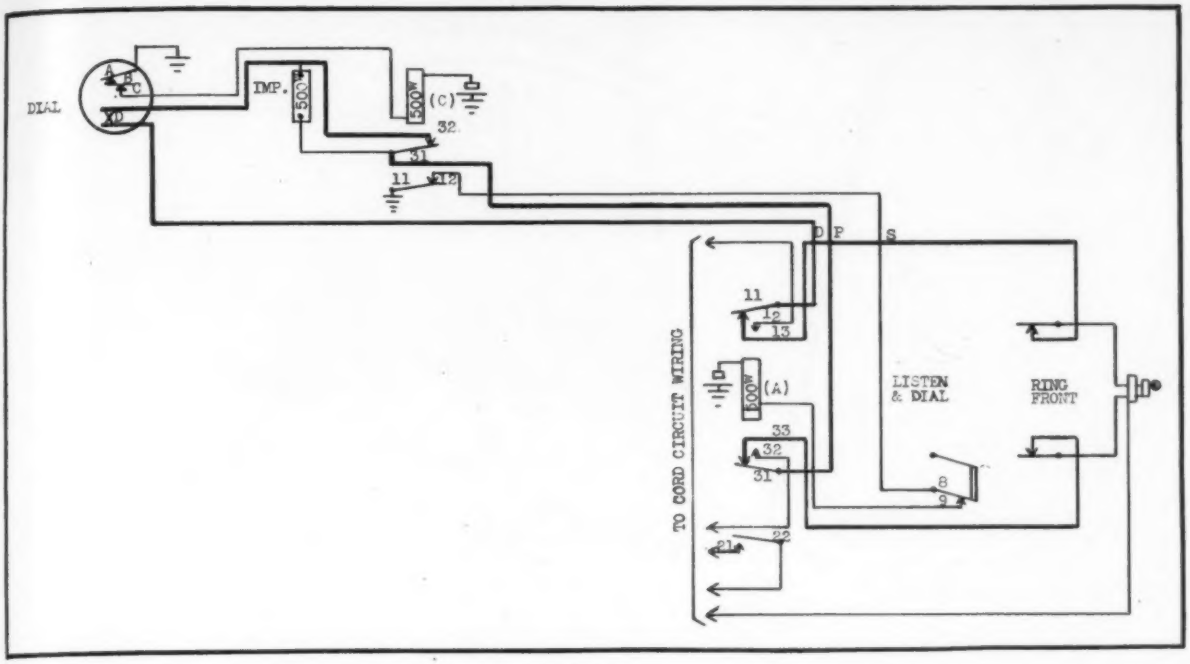


FIG. 2

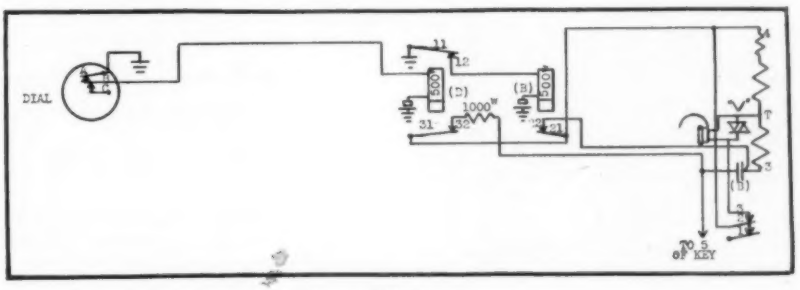


FIG. 3

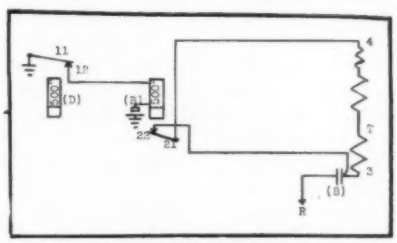


FIG. 4

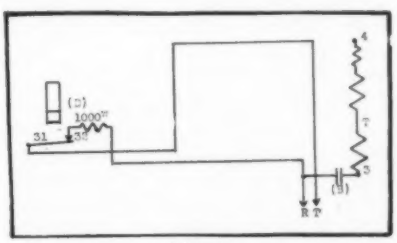


FIG. 5

the cord circuit. The relay, which cuts in the dialing relays, does not operate until the dial is rotated as indicated in *Fig. 2*. This being a slow release relay it does not release for a brief interval after relay (C) has released. The impulse springs "D" of the dial are closed at all times when the dial is at normal. The shunt springs open and close only as the dial wheel returns to normal. Shunt springs A, B and C are closed when the dial is in an off-normal position.

The operation of the dial circuit is as follows: When the front cord is placed in a line jack, establishing a circuit to a dial exchange, and with the listening and dial key operated, contacts 8 and 9 of the key are closed. This closes the circuit from relay (A) over wire "S" to contact 12 of relay (C) of the dial circuit. When the dial has been rotated from any number to the finger stop, contacts A, B and C (shunt springs) will be closed. Positive battery contact "A" to contact "C" will flow through the winding of relay (C) to negative battery. Relay (C) operates, closing contacts 11 and 12 and supplying battery to winding of relay (A) of the cord circuit.

The operation of relay (A) removes all of the cord circuit except the front cord and ringing key. As the dial returns to its normal position, (A) relay returns to normal again, closing the cord circuit. When relay (C) operates, its 31 and 32 contacts close, shunting the 500-ohm impedance coil which is in series with the impulse contacts of the dial and the cord circuit. This removes the series resistance from the dial circuit. The dial impulse springs "D" operate only on the return rotation of the dial which opens and closes the circuit of the impulse relay in the selector circuit of the dial exchange. This in turn provides stepping impulses in the selector.

If it were not for the 500-ohm impedance coil in series with the impulse springs, each time the (A) relay in the cord returned to normal, there would be considerable arcing at contacts 13 and 11, and 31 and 33 due to the short-circuiting of the impulse contacts being removed from the circuit. This arcing would also be transmitted to the rest of the circuit and to the contacts 12 and 13, and 32 and 33 of relay (A). This 500-ohm impedance tends to absorb much of the surge of current. It will be noted that contacts 11 and 13 and 31 and 33 are arranged to close before contacts 12 and 13 and 32 and 33 open. This arrangement pre-

(Please turn to page 31)

Meeting held on international communications. . . . Train radio-telephone experiments discussed by Mr. Welch. . . . IRAC suggests elimination of short-wave international broadcasting. . . . Radio regulation problem explained.

LAST WEEK in Washington, D. C., representatives of radio and telecommunications, the press and interested government agencies met at the invitation of the State Department to discuss vital problems of international communications after the war. There probably are some telephone men who still think that radio and its regulation are none of their business, but their number is dwindling rapidly. By the time certain postwar developments in the communications field actually make their appearance, the number of such dyed-in-wool "wire men" will probably have vanished entirely.

In other words, and in rather plain words, any telephone men engaged in any substantial operation who think that their business will henceforth be locked off into a watertight compartment, from the business of radio, are not likely to remain even in the *telephone* business very long—or profitably so, at any rate.

The problem of most immediate interest to the telephone industry is that of radio relay. It is a double-barreled problem, roughly shaping up as follows: (1) The industry has a stake in securing access for the telephone industry, as an industry, to certain radio frequencies which might be hereafter utilized for toll messages, commercial, marine, highway, motor and train communication with land wire systems, and possibly for rural telephony at some future date. (2) The industry has a stake in policy decisions (by the FCC in the domestic field, and by the State Department's Interdepartment Radio Advisory Committee in the international conference field) as to the possible exclusion or limitation of certain forms of communications traffic from radio operations, traffic which would thereby be required to travel, if at all, over land wires, or submarine cable, or in the case of television, possibly over coaxial cable.

There is no hard and fast line of demarcation between these two major fields of interest in the entire subject of radio regulation, from the viewpoint of the telephone industry. Roughly, one is a direct interest; the other indirect. One is a program for the attainment of necessary concessions, or at least tentative commitments, for the industry's own operations. The other is simply a consequential situation, by which the industry may acquire business opportunities through wire traffic which might otherwise move by air.

* * *

Here is an example of a complicated regulatory problem which cuts across both fields. The International Business Machine Corp. of Washington, D. C., and General Electric Co. of Schenectady, N. Y., have applied to the FCC for authority to construct a chain of experimental radio relay stations between Washington, New York, and Schenectady to carry as many as three high-quality television programs and "other services," simultaneously in both directions. These relay stations, except for terminal depots in large cities, will be installed atop high steel masts, about 30 miles apart. The channels on the radio spectrum sought in this giant application are in the very high frequencies, 2,000 to 2,300 megacycles.

The channels, six bands in all, would be at least 20 megacycles wide each, as wide as three ordinary present-day television channels. The stations would be all the type known as "Class 2" or experimental for relaying signals.

Now it is pretty well known among radio engineers that IBM has perfected a very clever device for sending business information of all sorts. It is competitive with, but doubtless superior to, and certainly faster and more comprehensive than the teletypewriter, which operates by wire. Teletypewriter service has been conducted for some years by the Bell System and, to some extent, by some of the larger Independent telephone companies. The new IBM

machine, however, is a multiple-frequency device, meaning that it will need more than one channel on the radio waves. To this extent it is a departure from the presently known point-to-point radio signaling apparatus. In fact, without attempting at all to prejudge the merits of the IBM application, there are those critics who believe that the IBM device requires so many frequencies as to be a wasteful use of the spectrum.

Also involved in the joint IBM-General Electric application is the problem of relaying the future television programs on a network basis. The FCC eventually will have to decide whether the competitive networks will be permitted each to establish its own direct relay system between cities by building a series of duplicate towers every so many miles, cluttering up the landscape, or whether the whole relay network service should be trunked through an established common carrier system. This would be the telephone industry, which now handles the network radio programs by wire.

If the latter policy decision is determined by the FCC, the telephone industry, having the control and responsibility, may work out some arrangement for coordinating radio relay or television programs with coaxial cable. In this event, network programs could move by both radio *and* land wire. Such coordination might well be in the interests of the most economical utilization of the radio spectrum.

* * *

More recently, we've been hearing a great deal about radio on trains, primarily for signaling purposes in the interests of safety of railroad operations. Here again, a regulatory policy decision may have its eventual impact on the telephone industry.

Two entirely different methods of radio-telephone communication from moving trains have been developed. The great Pennsylvania railroad system, since 1942, on its Belvedere-Delaware branch, has been experimenting with a train telephone which does not require FCC application at all. It is simply an electronic device which utilizes high-frequency alternating electric current, transmitted by induction to the rails and to existing wires on poles parallel to the tracks. This device can now employ frequency modulation and higher carrier currents for transmission.

The Pennsylvania railroad thinks well enough of it to make its decision with the application of the electronic device on the road's main line between Harrisburg and Pittsburgh. This electronic telephone program will provide

(Courtesy, LIBERTY)

"Operator, give me any number—I want to make new friends."

continuous communication between moving trains, between trains and towers, and is installed on two main-line, four-track, divisions covering 245 miles of line. It has certain advantages over radio; *e.g.*, it will not "fade" while trains are moving through long tunnels or over other roadbed conditions adverse to radio. For obvious reasons it will *not*, as presently planned, provide communication between moving trains and regular telephone stations through switchboard connections.

The other moving train communications system is a purely radio device which would require the allocation of frequencies by the FCC. A demonstration of this type of equipment was given last month by the Baltimore & Ohio railroad, which has been conducting experiments in cooperation with the Bendix Radio Division of the Bendix Aviation Corp. This equipment is designed to operate on frequencies between 30 and 40 megacycles, which are not available for unlimited service. It is not surprising, therefore, that Roy B. White, president of the B&O, said in connection with his road's demonstration, that the steel railroad passenger car offers many obstacles to radio communication which must be overcome. This apparently was to forestall the premature hope that passengers might be able to carry on telephone conversations indiscriminately with other telephone stations throughout the United States from moving trains.

Some day, in the not too distant future, it probably will be possible for railroad passengers to make telephone calls, just as passengers on ocean liners did before the war broke out. But some pretty carefully planned regulatory decision, as distinguished from technical developments, must be made before that day arrives.

These two problems are only nibbling at the much vaster problem of regulating the "radio spectrum," which is only a small part of the universal spectrum of wave radiation, which runs virtually the entire gamut of human sensual perception. As most readers of this department are aware, these waves or frequencies start at the bottom with subsonic "audio" or sound tones too low for the human ear to perceive (lower than the lowest tones on the great organ), then carrying through the "keyboard tones," through the highest note of the piccolo, through the supersonic or "dog whistle" tones, then into the electric wire phase (ordinary house current 110 cycles), into the radio spectrum, which is what the FCC has to worry about. Above the radio spectrum we have heat waves (infrared) which go into the light waves (the entire prism) and finally into the x-rays, gamma rays and cosmic rays, which are out of this world.

The reason we are in need of these technical and international conferences (which are not at all restricted to radio as such) is that the electronic art is making more and more demand on the radio spectrum with the discovery of new improvements. To read the newspapers' articles about such meetings, the casual reader might think that the whole trouble was commercial radio broadcasting. That is probably the most sensitive spot, but even a casual glance at a spectrum map shows plainly that commercial radio broadcasting takes up, on the entire radio spectrum, only about as much room as a solitary pickaninny on a mile race track.

One real trouble after the war is going to come along with improved radio-telephones which the railroads are already beginning to use and which taxicabs, and eventually, the telephone companies will want to develop for automobiles. These devices are going to take up a lot of frequencies (one for every telephone conversation or mobile telephone station in operation). While the walkie-talkie or automobile-type telephone is probably going to use waves so short that they do not go beyond the horizon and therefore can be used simultaneously again and again in every 50 or 60-mile circle across the country without interference, there still will be a problem of finding enough frequencies to go around.

* * *

The State Department has certainly not acted too soon in lining up a program upon which American interests can, at least relatively, agree before we go before the inevitable postwar international conference. Much has been done by international conference

in the past, notably Madrid in 1932 and Cairo in 1938, but as Bernard M. Baruch has pointed out in his report on postwar adjustments, "The problem of world communications ranks alongside air traffic, ocean shipping and international currency in its importance to the United States in the years ahead."

The IRAC, which is the alphabetical name for the State Department's Interdepartment Radio Advisory Committee, is made up of government radio officials from various federal agencies. At the meeting held in Washington August 11, IRAC submitted proposals outlining a tentative allocation covering all communication services and utilizing the ultra-high frequency ranges, which prior to this war were largely in the experimental category.

The most controversial of these problems was one that would eliminate all short-wave international broadcasting. At present, if you own a short-wave radio set, you may tune in Berlin, Moscow, Madrid, London, etc., if your set is good enough and the atmospheric conditions are right. The programs come direct from these respective countries and are, therefore, uncensored.

But radio engineers point out that it is a great waste of usable spectrum frequencies, which are particularly needed for marine, aviation and other point-to-point commercial signaling, to allow nations without limitation to put any number of programs on the air at any time for purposes which are largely utilized for international propaganda. They point out that if Great Britain, Russia, and other nations have programs of sufficient interest and importance to warrant sending to this country for public radio reception, they can be relayed by other frequencies and sent out to local listeners in the United States through regular local broadcasting technique.

Critics of this somewhat drastic proposal, which would virtually make useless the short-wave band on everybody's radio receiving sets, are going to make a fight on this. They refer to the great utilization being made of the international short-wave broadcasting by the United States for indoctrination and re-education of conquered and hostile populations. The OWI has put a good deal of money into just such facilities. Such work could not be carried on by a relay system which could not escape censorship of local governments, and would have to pay toll to local broadcasting industries for access to local transmission outlets.

The engineers say that is the way it should be, that direct propaganda has no place in a postwar free world and that in the final analysis only a small fraction of those radio set owners, owning short-wave sets, even bother to listen to such broadcasts.

* * *

It would be going into unnecessary detail for readers of this department to discuss the particular points of allocation proposed by the IRAC. The trouble with this entire problem of radio regulation is that there is no one forum which considers the whole picture. The international conference is concerned only with international aspects, the FCC with domestic aspects, and the technical planning boards with technical aspects. We have to get a long way off from the trees to see the forest. Your correspondent herewith ventures a thumbnail attempt.

Here are the three sides of what might be called the triangular problem of radio regulation, as your correspondent sees them:

(1) *Technical allocation of the spectrum* as between various forms of utilization, including radio broadcasting, television, point-to-point communication, both written and oral, radio relay and a host of other applicants pounding at the various multiple doors of the spectrum and demanding the admission best suited for their purpose. These vary all the way from the slow and humble Morse marine signal, far below the bottom of your ordinary radio dial, all the way up to the medical x-ray machine, which borders on the realm of physical heat. Policy decisions in this field must be made to include, exclude, or limit each of these agencies in their own feasible range of the spectrum.

(2) *Political allocation of the spectrum* as between nations. This includes not only the determination of how many frequencies which nation may use and when, and for what purpose, but also policy decisions as to whether direct broadcasts (without relays) from one nation to other nations shall be permitted and, if so, to what extent and how distributed.

(3) *Social allocation of those usages of the spectrum designed for reception of the public at large.* This is primarily a matter of domestic regulatory jurisdiction for each sovereign country to determine the balance of usage between those radio communications affecting the public intelligence, whether by moving image, oral broadcasts or the written word. Policy decisions will involve judgment on how much time shall be devoted to educational programs at the expense of entertainment, how much advertising, how much propaganda, and how divided between the conflicting factions, how much religion, and other social reform programs. To what extent should the press be permitted to own and control radio facilities? A good example of how severe a headache can arise in this delicate field is the recent dispute between the CIO unions and the radio broadcasting industry. CIO claims that the radio stations do not allow unions enough time to tell their side of the story on the air and that CIO will simply have to buy up and operate their own radio stations.

Three subcommittees of the IRAC which will carry on the exploratory work and draw up recommendations are: (1) The Telecommunications Division, under Harry B. Otterman, to analyze proposed revisions of the international conferences; (2) the frequency allocations division, headed by J. H. Dellinger, chief of the Radio Section of the Bureau of Standards and chairman of the Technical Postwar Communications Subcommittee of the State Department, and (3) technical operations, headed by Capt. E. M. Webster, chief of Coast Guard communications. The Washington meeting was opened by Francis C. deWolf, chief of the State Department's Telecommunications Division.

Good Advice

The public has become so used to constantly improved service with steadily declining rates in the field of public utilities, that it overlooks the predicament of many public service companies. Former United States Senator Arthur E. Nelson, St. Paul, Minn., illustrates the situation by citing the problem of the 6,400 smaller telephone companies serving an area of approximately two-thirds of the United States.

"Many public utility companies under drastic public regulation, have been fearful of asking the necessary return for their services. The Senator shows that managements must go before regulatory bodies and justify necessary increases in order to prevent the elimination of operating concerns absolutely indispensable to the welfare of the nation."—Industrial News Review.

Subscriber Credit Classification

By R. C. ROSS
Commercial and Traffic Superintendent
Portsmouth (Ohio) Home Telephone Co.

ALTHOUGH telephone companies are supposed to be doing a cash business and not extending credit to subscribers, there is a definite need and place for subscriber credit classification in business. The importance of subscriber credit classification has become even more important to companies with the increased usage of toll by the average subscriber during the past several years.

If you are interested in a very workable and simple subscriber credit classification plan, the following paragraphs will afford you a brief explanation. This plan is based on the assumption that all subscribers are innocent of being a poor credit risk, unless proved otherwise.

A new subscriber's credit is ascertained from his credit references or through the credit bureau. Consideration is given as to whether or not he owns his home, the stability or reliability of his job or business, and the general conditions under which he lives. From this you can determine in which of the following classifications the subscriber will fit:

(1) Special treatment class—this includes government accounts, special accounts, etc.

(2) In this class are subscribers whom you have no reason to suspect will be poor credit risks. Probably 80 to 85 per cent of all accounts will be included here.

(3) Accounts that might ordinarily fall in Class 2, but about which there is some doubt in your mind, and may bear watching, due to occasional delinquency in payment, excessive toll, etc., are put here.

(4) Poor risk — the subscriber is fundamentally honest—but has trouble in managing his affairs, and is consequently delinquent very frequently, and is apt to over-indulge in toll calls without too much consideration of how the charges are going to be paid.

(5) The strictly "no good" class — those who pay only when forced to, and who would deliberately run up tolls and other charges with no intention of paying them. It is surprising the small number that will fall into this account.

You are not in a position to discriminate between subscribers, but it is your obligation to protect your revenues. In order to accomplish the latter, you must limit the extent to which you permit a telephone bill to go unpaid during, or past, the current month. You will have no trouble with this, if you have records to substantiate your actions.

Those companies using addressographs can easily identify the different accounts in the following manner:

Some place on the addressograph plate there is adequate space for dashes. The Nos. 1 and 2 classifications will require no dashes, the No. 3 classification is indicated by one dash (—), No. 4 by two dashes (— —) and No. 5 by three dashes (— — —). It conveys no information to anyone except those who know the code. The dashes are an immediate notice as to what extent the account must be watched.

The classification (the dashes) of a new account is placed on the work order at the time it is prepared.

Present accounts can be reviewed and classified in the same manner as new accounts. The classification is based on your experience with the subscriber's paying habits and what you know or can find out about him, favorable or otherwise, without going to too much trouble. The person handling collections usually can give you a fairly comprehensive picture of most subscribers' paying habits.

Records for treatment of accounts are made and kept only on delinquent accounts, and the Nos. 4 and 5 classifications on current bills, particularly if there is any toll involved. These treatment records are filed alphabetically each month, so there is accumulated a treatment and payment record of all accounts delinquent or treated for collection. If there is no record in the file, then, of course, the subscriber has always paid currently. If he has been delinquent, you have the delinquent treatment records from which to obtain any information desired for any purpose.

There is not much to this system as you can see, but it does satisfactorily cover the purpose for which it is intended, that is, an aid to the intelligent and fair collection treatment of subscribers' accounts. The secret of its success is in keeping it current, once it has been established. Every time you treat an account, you must be conscious of the advisability of changing the credit classification for better or for worse.

V V

News and Pictures Distributed Since D-day

In the first seven days since the dawn of D-day, Cable & Wireless, Ltd., have forwarded 1,099,338 words in press messages from London to the Dominions, India and to the United States, and have distributed some 296 news pictures. In addition some 60 words were broadcast. Many thousands of words were sent in press messages to other Allied and neutral countries during the week.

On D-day a total of 175,700 words were sent out, and on the following day, 155,166. Total wordage to the United States during the first seven days was 378,998 words. The second highest wordage for the first week was sent to Australia with 324,461 words.

The largest number of news pictures sent by Cable & Wireless was to Bombay with 65, followed closely by 62 to Melbourne.

V V

"Service First" Still Telephone Code

In the days of the Nazi blitz of England, a 74-year-old man and his wife served at a little switchboard on the top floor of a building in a small Yorkshire village. During a raid that lasted nine hours, thousands of incendiaries and hundreds of explosives fell in the neighborhood.

The old couple remained at their posts, handling a rush of fire, ambulance and other rescue calls. When asked why they did not take cover, they answered that it had not occurred to them.

V V

Independent Manager Named

MRS. HAZEL BLUM, Monroe, Wis., was recently appointed manager of the Monticello (Wis.) exchange of the United Telephone Co. She succeeds MRS. P. J. AULTMAN, who has been manager of the exchange for many years.

THE PLANT MAN'S NOTEBOOK

BY RAY BLAIN • TECHNICAL EDITOR

IT SEEMS strange that there seldom is a pad and pencil near a telephone when we are required to make notes. If we trust our memories, errors are made, and even when we make notes, we frequently make mistakes. It seems that the only answer to this problem is authorized telephone recording. When a recorder is permanently connected to a telephone, it usually is ready so that the flip of a switch makes an accurate record available for future reference.

* * *

There seem to be numerous advantages in the use of high tensile strength steel wire and compression type sleeves for rural line guying. This type wire has adequate strength to carry the strain, but is most difficult to serve around the pole and on the anchor rod. The new compression type dead-end sleeve makes this an easy task. We are of the opinion that some day this will be the standard method for rural line guying.

* * *

The average telephone company usually does not pay enough attention to wire and cable attachments on buildings. When a good electric drill and suitable anchoring devices are used, the task is made both easy and permanent. Wires and cables, not properly attached to masonry, present a real hazard and may be the cause of serious accidents.

* * *

It is claimed that 65,000 telephone calls are required to build a liberty ship.

* * *

Three weeks before the invasion, when observing the centennial of the telegraph, Brig. Gen. Frank E. Stoner, chief of the Signal Corps Army Communications Service, sent a six-word radio-teletype message, "This is what God hath wrought," completely around the world, through four relay stations, in 3½ minutes to demonstrate the system's speed.

For months before the new European offensive opened, the Army Communications Service had handled upward of 6,000,000 words per day dealing with combat orders, supply, transportation, production and every other phase of the war effort. These were the messages that assembled the men, the planes, the tanks and the supplies, and coordinated the plans for the invading armies. When the attack began, the Signal Corps smoothly stepped up the pace to handle the increased volume of traffic, and diverted additional facilities to the press and radio so that the nation could receive up-to-the-minute information on the progress of the undertaking.

* * *

James Harper, Jr., formerly with the Cincinnati & Suburban Bell Telephone Co., now with the Plant Engineering Agency of the Signal Corps in Philadelphia, was promoted from captain to major on June 30, 1944.

* * *

The U. S. S. Alabama, one of the Navy's newest and largest battleships, was constructed without a single accident fatality. The death-free launching of the Alabama marks the first time in the history of the Navy that a capital ship has been built without a construction fatality.

* * *

B. Mittell, general manager of Electric & Musical Industries, Ltd., in England, has the following to say in regard to television and its possibilities:

"Television is obviously in its fumbling stage and for a year or two after the war, sales will be small even if there is a free market. If it had not been for the war, the industry would probably have sold 40,000 sets in 1940 but to me it seems quite certain that television will expand in much the same way as sound broadcasting did. After all, it took some six or seven years before that really became a substantial industry."

* * *

"The road to Rome lies behind us," declared Lieut. Gen. Brehon Somervell, commanding general, Army Service Forces, in a recent address. "Ahead of us stretches the longer, harder road to Berlin. And beyond Berlin, obscure in the dust and smoke of future battles, is that third long highway, the road to Tokyo. The road to Berlin runs down every main street in America. It is Broadway and Hollywood Boulevard, Michigan Avenue and Peachtree Street. It runs past the door of your shop, your farm your home. There are no grandstands along the way, no cheering sections. There's a place in the ranks for each of us. There dare be no vacant files. Every man and woman in the nation has a place in the marching forces of democracy and every man and woman must be in place. Our share here is work without glory, labor without the stimulus of danger. It is no less vital, however, than the share our fighting men must bear on the battlefronts."

* * *

A recent news release stated that more than 800,000 new non-farm residences each year, during the first six years after the war, will be required to provide homes for newly formed families.

If the 4,700,000 new families formed during the 10 years following the outbreak of war, and the more than one million existing families which have no

residence of their own are to be housed during the six-year period, substantially more than 800,000 new dwelling units per year will be required.

It is believed, however, that the total housing need is still greater, because there are at least 4,200,000 substandard dwellings which should be replaced. Actually, the accumulated non-farm housing need facing the nation during the six years after the war totals nearly 10,000,000 new residential units.

The National Association of Real Estate Boards states that new homes were constructed at the rate of 515,000 a year during the five year period from 1937 to 1941, when approximately 9,000,000 individuals were unemployed. In view of the fact that the demand for new dwellings is greater than ever before and since the savings at the command of the American people are by far the largest in our history, it seems certain that the rate of residential construction after the war will be far greater than during the depression years.

It also appears likely that everyone who builds a new house will want a telephone and at least one extension in this day and age. This all adds up to the fact that the telephone industry is certain to experience one of the greatest booms of its history for at least five years beginning after the end of the war when we have passed through a certain undetermined period of readjustment and a change-over from war to peacetime basis. In view of the great change which we are certain to be called upon to face, right now is a good time to at least start making our preliminary postwar plans.

* * *

It is surprising to note the large number of telephone men now in the armed services who read TELEPHONY on our fighting fronts. I receive frequent letters from men in all parts of the world who make comment on things they read in TELEPHONY. They also state that one copy often is read by hundreds of men.

* * *

The following definition of a telephone engineer is offered not for its technical value nor educational worth but only in the spirit of good clean fun:

"A telephone engineer is a person who passes as an exacting expert on the basis of being able to turn out with prolific fortitude infinite strings of incomprehensible formulae, calculated with micromatic figures, taken from inconclusive experiments carried on with instruments of problematical accuracy by persons of doubtful reliability and questionable mentality for the avowed purpose of annoying and confounding a hopelessly chimerical group of esoteric fanatics referred to altogether too frequently as practical telephone men."

In other words you don't have to be crazy to be a good telephone engineer, but it is a big help.

* * *

Wartime improvements in both tinsel and plastic insulation seem to point to the fact that our postwar telephone cords may be superior to our good prewar cords. This improvement, it is believed, will reduce station trouble considerably.

* * *

Recently we received information on a special typewriter which is designed especially for lettering drawings and tracings. This machine may be equipped with several different sets of type and has rollers which will handle tracings and drawings of any size without folding. This machine certainly will prove a real labor saver for any company making a large number of drawings. The finished product is also much better and neater than hand lettering.

* * *

Many telephone companies have finally come to realize that serious damage may be caused to central office equipment when proper protection is not provided in humid climates. This protection usually may be obtained in the average climate by the installation of a comparatively simple and inexpensive chemical dehumidifier.

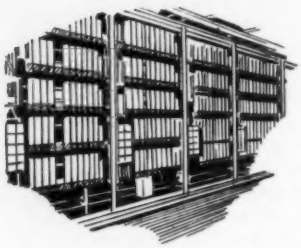
Commander, Stock Numbering Agency

Lt. Col. William A. Kelley, Commanding Officer, Stock Numbering Agency, Procurement & Distribution Service, Signal Corps, Philadelphia, Pa., was born January 23, 1900, at Beaver Falls, Pa. After graduating from Pennsylvania State College with a B.S. degree in electrical engineering in 1925, he was employed by the Reliance Electric & Engineering Co. as sales engineer and manager in the Wisconsin and Minnesota territories until January, 1934. Later he was appointed western manager for E. D. Jones & Sons Co. of Pittsfield, Mass., a position he held until December, 1941. During this time, he invented the automatic paper stock beater used in the making of paper.

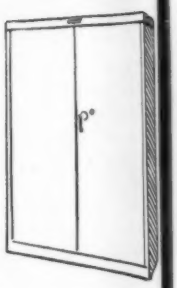
Next, he went to Washington, D. C., where he organized and was appointed chief of the pulp and paper machinery section, printing and publishing machinery section, electric motors section, and incandescent lamps section of the War Production Board. In July, 1942, he was made assistant to the director, and electrical engineer, facilities division. He held this position until January, 1943 when he was commissioned a lieutenant colonel (temporary) in the Signal Corps and placed on duty in the Office of the Chief Signal Officer, Washington, D. C.

From May to June, 1943, he was assigned to the Officers' Training School, military branch, training division, where he took the signal supply course. He was then ordered to Fort Leavenworth, Kan., where he completed a brief course in the Command and General Staff School the following August. His next assignment was the Lexington (Ky.) Signal Depot, where he served until October, 1943, when he was assigned to the Signal Corps Stock Numbering Agency in Philadelphia.

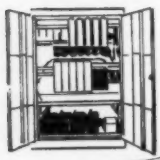
His other inventions include: Electric paper machine drive; electric high-speed supercalender drive (paper industry), and the electric overspeed device for the Foren Mill, a machine for making seamless pipe (steel industry).



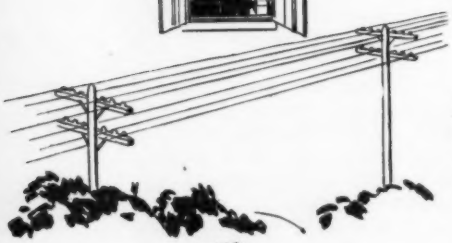
CENTRAL OFFICE EQUIPMENT—Strowger Automatic operation is taking first place in the plans of many companies. Now is the time to prepare for conversion of your property.



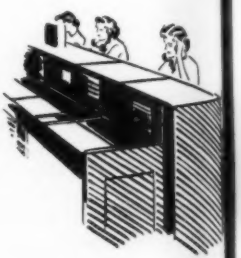
PRIVATE AUTOMATIC BRANCH EXCHANGES — Business users like the improved service provided by modern P-A-B-X systems. Ask our field engineer to work with you on specific projects.



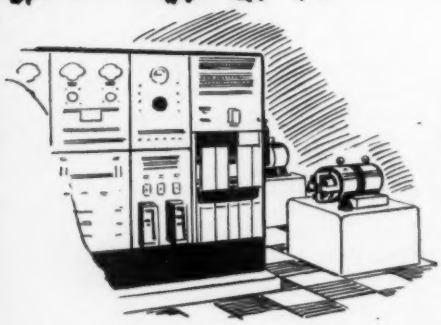
COMMUNITY AUTOMATIC EXCHANGES — These unattended units give modern dial service 24 hours a day. If your company has small exchanges, the C-A-X merits a place in your plans.



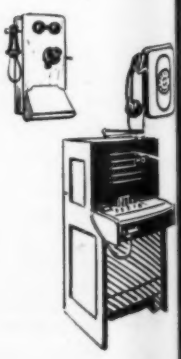
PLANT CONSTRUCTION — Our construction specialists can help you plan extensions or rebuilding of toll or local plant. Ask them about the latest in methods, tools and materials.



AUTOMATIC TOLL BOARD—With this modern switchboard, you can speed up toll service, and handle more traffic on present circuits. Our toll specialists are ready to help you plan.



POWER EQUIPMENT — If your power apparatus needs modernizing, or is inadequate for today's traffic, let our engineers tell you about the latest approved equipment and practices.



EQUIPMENT REBUILDING—Hundreds of companies are now using Autelco Rebuilding to keep telephones and switchboards modernized. Let us plan a rebuilding program for you.

Some Timely Tips for your Long-Range Planning

Now, and in the months ahead, telephone executives will want to look to the future—to plan improvements which will pay dividends when construction and expansion can be resumed.

We believe these suggestions will help you in your program for better service and more modern methods. We are ready to *help* you plan—in every way we can without interfering with our production for war.

Here are tested products and ideas which can make your planning more effective. Consult our field representative, or write us direct.

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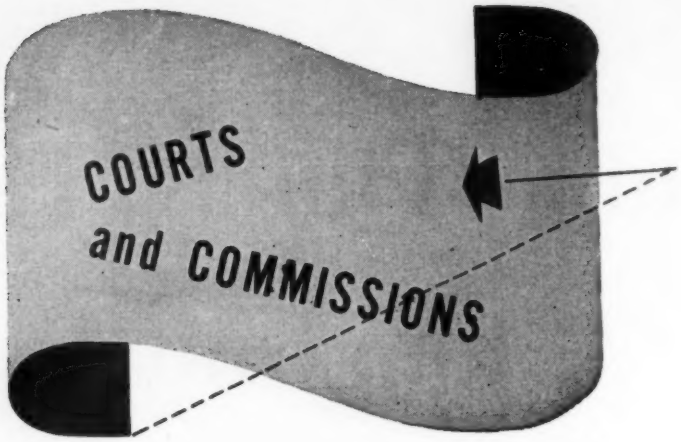
The Army-Navy "E" Pennant, with three stars for continued achievement in production flies over the plant of Automatic Electric Company.



Wilcox (Neb.) Company Applies For Certain Additional Charges

The Wilcox (Neb.) Telephone Co. has applied to the Nebraska State Railway Commission for authority to add to its schedule a 25 cent charge for desk and handsets over the charge for other types of equipment; to increase the spread between individual line and party line service, and to establish rates for metallic service ranging from 25 to 50 cents over its present grounded rates.

Rural electrification construction in part of the territory served by the company has created service troubles that have forced the company to order substitution of metallic for grounded service.

V V

Commission Schedules Case on Boundary Service Dispute

A fine point in connection with telephone service boundaries has arisen at Welch, Okla., in the application of W. B. Dodds, a farmer who is demanding a continuation of rural switched line service from the Welch-Bluejacket Telephone Co., whereas the company insists that he should be classified as a town subscriber. The case is set for hearing before the Oklahoma Corporation Commission on September 5.

C. H. Noe, manager of the Welch-Bluejacket company, contends that Mr. Dodds is within the Welch exchange area since he is 425 feet from the city limits and about five blocks from the Welch-Bluejacket telephone exchange. Several residences outside the city limits—the nearest one being 225 feet from Mr. Dodds' residence—are classified as city subscribers and are paying the regular city exchange rate for individual line residential service. Mr. Noe has refused to give Mr. Dodd service from his exchange unless he pays the regular city rate as others in the vicinity are doing.

The latter formerly was served over a nine-party rural switched line connected to the Welch exchange, but recently moved to his present location closer to town and on the same rural line. He insists that he should be permitted to continue his service over the rural line at 33⅓ cents per month instead of being required to pay $1.50 per month for a city telephone.

"This is the closest point in city exchange limit boundaries that has ever been brought to my attention," said B. Richardson, telephone engineer of the Oklahoma commission.

V V

Telephone Line Owners File Trespass Suit

Action to end an asserted trespass by enjoining three residents of Geyserville (Calif.) from continuing with a private telephone line, was filed in superior court August 4.

Plaintiffs are owners of extensive ranch property near Geyserville, and owners of a telephone line that links their ranch properties with the lines of the Pacific Telephone & Telegraph Co. lines.

In the action, the plaintiffs charge that M. L. Vanoni, Clement Vanoni and M. Vanoni connected a line last month to their telephone line, and that their act constituted a trespass. They seek to have the defendants enjoined from continued use of their line.

V V

Telephone Coin Box Figures In Separate Maintenance

Earle J. Harrington of Morganville, N. J., lawyer for the Central Railroad of New Jersey, testified in an affidavit in chancery court recently that he had a public telephone coin box installed in his home to dissuade his wife from making long distance calls.

Mrs. Harrington, who charged mistreatment, was granted her petition for separate maintenance.

V V

Commission O.K.'s Service Discontinuance and Half Rates

The Nebraska State Railway Commission recently authorized the Dix (Neb.) Telephone Exchange to discontinue service from 11:00 a.m. to 12:30 p.m. on Sundays and holidays, except during the last week in July and during the month of September, which is the harvest season in that area. Inability to secure the necessary help was the principal reason for this authorization. A consent petition, signed by 66 patrons, accompanied the application.

The commission also granted permission to the Hay Springs (Neb.) Telephone Co. to establish a half rate for temporary discontinuances upon request of subscribers. The minimum period for discontinuance is one month and the maximum period is six months, after which the telephone is to be removed.

V V

Governor Appoints H. W. Abbett To Indiana Commission

Henry F. Schricker, governor of Indiana, has appointed Hugh W. Abbett as a member of the Indiana Public Service Commission. Mr. Abbett takes the place of William A. Stuckey whose term expired on July 8, 1944.

Mr. Abbett's commission experience began in 1919 when he became a member of the engineering staff of the In-

diana regulatory body. He continued in that capacity until 1934. In March of 1942 Mr. Abbett returned to Indiana, after service with the Federal Power Commission, to become chief engineer of the Indiana commission. He goes from that post to the commissionership.

William F. Lebo, who has been on the commission's engineering staff for more than 25 years has been appointed to succeed Mr. Abbett as chief engineer.

V V

ICC Authorizes Increased Rates for Independent

The Illinois Commerce Commission has authorized the Staunton Telephone Co. to increase its rates in Staunton, Williamson and Livingston.

Chairman John D. Biggs said the new rates became effective August 1 and will increase the company's annual revenue approximately $2,499.

V V

Territory Transfer Approved

Ohio Bell Telephone Co. officials in Columbus were notified on August 10 that the Ohio Public Utilities Commission has authorized the transfer, by the Ohio Associated Telephone Co., Marion, of portions of the latter's territory in the La Rue and Harpster exchanges to the Upper Sandusky exchange of the Bell System.

V V

ICC Secretary Resigns

FRANK M. KALTEUX resigned recently as secretary of the Illinois Commerce Commission to become chief clerk of the Chicago automobile division of the secretary of state. He held the office of commission secretary since 1941.

V V

Summary of Commission Rulings and Hearings

Federal Communications Commission

August 7: Granted modification to American Telephone & Telegraph Co., Long Lines Dept., Dixon, Calif., of point-to-point telephone station license covering construction permit for additional transmitter.

August 8: Granted authority to American Telephone & Telegraph Co. and The Southern Bell Telephone & Telegraph Co. to supplement existing facilities between Atlanta, Ga., and Dallas, Tex. Estimated cost, $6,000,000.

California Railroad Commission

July 28: Hearing in the matter of Associated Telephone Co., Ltd., Santa Monica, seeking authority to sell certain real property in Long Beach.

August 4: Granted authority to the Associated Telephone Co., Ltd., Santa Monica, to sell certain telephone plant located at San Bernardino Army air depot to the War Department.

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"Now that we don't have the manpower to maintain our plant as we did before the war, I'm mighty glad we used Hubbard Pole Line Hardware. With this husky hardware, we're all set for the duration."

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Right now, these qualities in Hubbard hardware are paying dividends. Telephone men with Hubbard-equipped plants are sitting pretty, confident of the service built into these quality products.

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Indiana Public Service Commission

July 6: Hearing in the matter of rate adjustments at the Tippecanoe exchange of the Northern Indiana Telephone Co.

New York Public Service Commission

August 11: Hearing on motion of the commission regarding rates and charges of Au Sable Valley Telephone Co., Keeseville.

August 14: Hearing on petition of Ida E. Moore, individually and as executrix of Frank N. Moore, for sale approval of Moore's Telephone System, Nichols, to Jennie Moore Tyrrell.

Oklahoma Corporation Commission

September 12: Hearing on application of C. C. Masheter Telephone Co., Tryon, for increased rates.

V V

Farm Telephone Saves Six Children

"Thank God for the telephone!" is a sincere and realistic expression deeply burned upon the hearts of the Carl Bartosh family of Heron Lake, Minn.

On June 4, six of the Bartosh children, ranging from five to 16 years of age, were home alone when a tornado was seen to be heading in the direction of Heron Lake. Bernard Bartosh, 24, the children's elder brother, was visiting at a neighboring farm when he saw the seriousness of the situation. He tried to drive home but found it impossible. He stopped at the nearest farm and called his home by telephone, warning the children to go into the basement and stay there. This they did.

A moment later the twister struck. It blew a path 12 miles long and a half mile wide. It blew the entire house away, completely demolished five buildings and destroyed much livestock and poultry.

The telephone had saved the lives of six children, thanks to the thoughtfulness and quick action of Bernard who made the warning call.

COMING TELEPHONE MEETINGS

Maine Telephone Association, Elmwood Hotel, Waterville, September 14.

United States Independent Telephone Association, Hotel Stevens, Chicago, October 10, 11 and 12.

South Dakota Telephone Association, Hotel Widman, Mitchell, October 19.

Virginia Independent Telephone Association, Roanoke Hotel, Roanoke, October 26 and 27.

Alabama Independent Telephone Association, Hotel Jefferson Davis, Montgomery, November 13 and 14.

Missouri Telephone Association, November 21 and 22. City not yet decided.

Iowa Independent Telephone Association, Hotel Fort Des Moines, Des Moines, April 3 and 4, 1945.

Nebraska Telephone Association, Hotel Lincoln, Lincoln, April 5 and 6, 1945.

Spring Executives' Conference of the United States Independent Telephone Association, Edgewater Beach Hotel, Chicago, April 10 and 11, 1945.

Illinois Telephone Association, Hotel Pere Marquette, Peoria, April 19 and 20, 1945.

An Important Book!

"Inductive Coordination of Electric Power and Communication Circuits"

by LAURENCE J. CORBETT

Member, American Institute of Electrical Engineers, Fellow, American Association for the Advancement of Science

is the **only one** combining under one cover the essentials of this important subject involving many divisions which have been treated separately and occasionally in numerous reports and articles. It includes results of the author's researches, fitted into a broad survey of the principles applying to Inductive Coordination. It is NOT a compilation of catalog data or undigested reports. It is a carefully developed treatment and clarification of a subject which, though important, has received too little attention. Many diagrams illustrate the practical application of the principles in a manner very readily followed. The variation in values of factors is presented, and theory and practice under these conditions are carefully differentiated.

CHAPTER HEADINGS:

I. Elements of the Problem.
II. Susceptiveness and Coupling Factors.
III. Effects of Conductor Arrangements.
IV. Transpositions.
V. Coordinated Transpositions.
VI. Telephone Circuits on Power Structures.
VII. Power System Wave Shape.
VIII. Transformer Exciting Current and Bank Connections.
IX. Flow of Residual Currents.
X. Control of Residuals.
XI. Miscellaneous Values and Remedial Measures.
XII. Susceptiveness Factors.
XIII. Low-Frequency Methods.
XIV. Miscellaneous Methods.

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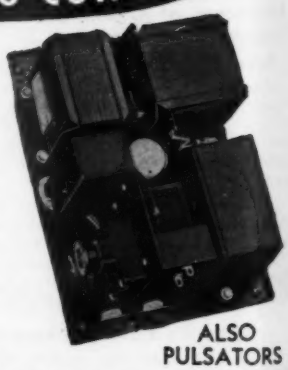

ONE of the prime requisites of an Ideal Ringing Converter is freedom from trouble and worry; another is reliability in delivering efficient, quiet, economical signaling service over long periods of time.

Sub-Cycle meets these requirements completely. Once it is installed, you can forget it. There are no moving parts and nothing to adjust. No chance of interference with radio reception. It is built for heavy duty and the output capacity range is 7½ watts to 40/50 watts. Made in 6 models from small PBX to large central office.

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Powley Raps Plan to Cut Rates to Offset War Taxes

President N. R. Powley of The Pacific Telephone & Telegraph Co. made the following statement regarding the California Railroad Commission's investigation to inquire into the effect upon the rates and operating expenses of public utilities of federal war taxes (TELEPHONY, July 15, page 29).

"The Pacific Telephone & Telegraph Co. and its subsidiary, Southern California Telephone Co., object to becoming parties to any undertaking which does violent injury to our government, to the public interest and to our companies. Any such action as may be implied from the commission's order, that is, that rates might be reduced to lift our companies out of federal war tax brackets without doing severe injury to the government, to the public interest and to our companies is untenable.

"Such action, as the commission's order implies, places the emphasis on reducing earnings rather than putting the emphasis where it ought to be placed, on reasonable rates and adequate service. Every company, in order to do its work, and to do it well, to meet its public responsibilities, must, of necessity, have a sound credit position. Any other approach is, as has been well said, a little as if a farmer bought a mule mainly on the basis of how little the mule could live on rather than how much he could pull if properly fed. The amount the mule eats, although not the most important matter, is important.

"Our companies still have much work to do in the public interest and so has our government. In either case, we want neither our government nor our companies to be placed in the position of how little we can live on rather than how much we can do if properly fed. The public interest, if the responsibilities of our government and our companies are to be met, demands that we have the strength to pull."

V V

New Manager Appointed

CHARLES WAGAMAN, manager of the Lynnville (Iowa) Telephone Co. for 13 years, on July 21 became manager of the Farmers Mutual Telephone Co., Dysart, Iowa. He succeeds OLIN SMITH who resigned because of ill health.

V V

Oklahoma Exchange Sold

The Schulter (Okla.) Telephone Co. has been sold by W. T. Stover to Mrs. Anna Swan, who took possession July 21. The exchange has about 40 telephones.

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The **CHURCHILL** No. 100 Folding Door Telephone Booth has structural features that give more rigidity and longer life.

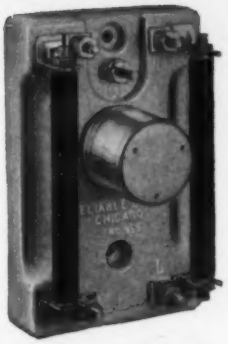
It is constructed as a single unit and equipped with a reinforced back panel for mounting a wall telephone or coin collector.

The **CHURCHILL** Booth is made of selected white oak and is available in light or medium oak in a satin finish.

Included as standard equipment are electric light and automatic electric ventilator.

Overall height is 84¾"; width, 29"; depth, 30½". Shipped knocked down and crated.

Illustrated literature available.



No. 955 STATION PROTECTORS

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The Reliable No. 955 INDIVIDUAL STATION PROTECTOR has all the features of the well-known line of RELIABLE PROTECTORS which have made them the standard of independent operating companies and railroads. This protector is of one piece design which simplifies mounting and eliminates any need for asbestos mats. The protector is neat and compact with connections easily accessible.

Made with special, low absorption porcelain base, phosphor bronze fuse clips and discharge block springs, and heavy binding posts with studs treated to prevent season cracking. Equipped with Reliable self-cleaning sawtooth discharge blocks and carbons which drain minor static discharges without leaving a ground on the line.

The No. 955 is equipped with two No. 55 seven ampere fuses.

The No. 955-A has clips which bite into the fuse tips and is equipped with two No. 77 seven ampere fuses.

Other fuse capacities are supplied on these protectors when specified.

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by MAYME WORKMAN
traffic supervisor
the Illinois Telephone Association
and traffic editor

THE OPERATOR'S CORNER

THE GIRLS were in the rest room waiting to report for duty and, as frequently happens when girls are gathered together, they were discussing clothes. "What a lovely new blouse! Where did you get it, Mary?"

Mary said, "New, indeed! I dug it out of a closet in the attic some time ago and sent it to the cleaners. It must be all of seven years old."

Someone else remarked, "I have heard mother say if you keep anything long enough, it will come back in style. That must be true, because your blouse is just the style they are wearing. The material is lovely, too. I wish I could find something like that in my closet."

Speaking of clothes, an interesting article appeared in the New York *Sun* some time ago entitled, "Decorative Patches to Keep London's Wardrobes Together." Quoting from the article: "One of the best sellers in these parts is a booklet 'Make Do and Mend,' issued by the Ministry of Information. This is essentially a book for women, and reminds us, once again, that clothes are a luxury and that great-grandma's feather boa, tucked away in the attic, must not be left there to rot, but brought out to serve some useful purpose."

One chapter of the book deals with patches. They are called "decorative patches." It is difficult to imagine a patch looking decorative. It would be difficult for the modern American miss to imagine a patch at all.

Another interesting chapter is devoted to stockings. Nylons? Goodness, no! The article says, "If your stockings are too short, sew a piece of tape on the tops for the suspenders to fasten on to." Patches are suggested for stockings, too. They are sewn to the tops of stockings where the suspenders are clipped. Imagine stockings held up by reinforced patches on tape circling the tops! And we grumble because our stockings get baggy at the knees.

The booklet encourages women to wear wooden-soled shoes, stating, "They cost only five coupons as against seven coupons for leather-soled shoes." According to the article, these shoes have delightfully gay-colored uppers, but the soles are thick and clumsy, and there is only one way to walk on a wooden-soled shoe—that is, to rock along. You can't take an ordinary step and hope for the best. The best doesn't happen. You concentrate on curling your toes up a little, then place your heel firmly on the ground, and the wooden sole—barring accidents—rocks you into the next step.

The article stated: "There haven't been any complaints about these shoes once the motion has been acquired, but grandma is going to have a little difficulty when she can no longer obtain leather-soled shoes, rocking herself down the Strand."

In a recent conversation, a woman employed in a large department store stated, "Our store has doubled its alteration staff, and still we have difficulty getting the work out. Would you believe it, some women employed in war plants will pay $50 or $60 for a dress, and an additional $30 or $35 for a clip to wear on it? They are certainly spending their money."

Generally speaking, this is probably true. Before passing judgment, however, it is well to keep in mind that many women working in war plants today are earning money for the first time in their lives and they are spending it for the things they have always coveted. It is probably also true that within a short time these women will settle down to some systematic saving, giving serious thought to their future needs when wartime jobs and wages are no longer available. They will remember that the "lean days" may come again.

Many women in war work are very much like the youngster starting to work in a telephone exchange. When she receives her first pay check, she has a desire to buy all the things she has always wished for and, of course, they are not always necessities. On the contrary, they are usually so-called luxuries that mother and dad could not afford or did not see fit to purchase.

These youngsters are not selfish in their spending. They frequently buy something for mother, dad, or for a younger sister or brother. Something they have heard mother say she would like to have—a purse, a mirror, or some gadget for the kitchen.

The spending "orgy" is usually over in a short time as the novelty of spending their own money abates and the youngsters realize the hours of labor required to earn it. The writer, in her work among women and girls, has seen this repeated time and time again—a few pay checks, a spending spree, then sober planning, spending and saving.

Wise parents do not interfere during the process of a youngster's adjustment to becoming a wage earner. They bide their time, realizing that it will only be a question of time until the reckless spending of money will begin to pall.

Clothes play an important role in practically every woman's life, but, as a young woman in our office remarked recently, "I'm making my clothes do until after the war. Then I will be able to buy two dresses for the price

I would now have to pay for one." Happy thought, and probably true, too.

We hope it will not be necessary to become "artistic patchers" before the war is ended, but if we are called upon to make this sacrifice, our American girls will do a good job, and, at the same time, will probably continue to be the most attractive "pin-up girls" the world over.

Questions from Illinois Operators

(1) What phrase should the local operator use when the calling party states that he has been trying to reach the called number repeatedly but it has been busy, or if he questions the report?

(2) Is a local operator permitted to verify a busy line?

(3) How can we educate people in small exchanges to use their telephone directories?

(4) How many panels should an operator reach?

(5) On what calls does the 15-second timing allowance apply on out-of-state calls?

The answers to these traffic questions are presented on page 40.

V V

E. W. Johns Transferred By Illinois Commercial

Earl W. Johns, for the past three years manager of the Highland district of the Illinois Commercial Telephone Co., has been promoted to plant superintendent of the northern district with headquarters in Kewanee. He assumed his new duties August 1.

This change will not affect the status of Corwin Dunn, superintendent of the northern district, according to company officials. It will relieve him of some of the work and responsibility of the district, however.

V V

Tornado Strikes Missouri; Telephone Circuits Closed

A tornado struck the Cape Girardeau district of Missouri on July 26 and did the worst damage in 20 years to telephone and power circuits.

No telephone circuit was open out of Cape Girardeau when the storm abated. Repair crews of the Southeast Missouri Telephone Co. went to work as soon as the storm struck, and worked until 8:30 p.m., July 27. About 350 telephones were put out of commission, but the majority of them were restored to service by the evening of July 27.

Other towns affected by the tornado were Chaffee, Advance, Sikeston, Poplar Bluff and Jackson.

Just hold this protector in your hands, and you get the feel of real protection. The massive porcelain block provides large and sturdy barriers between all terminals, to prevent current leakage over the surface of the porcelain. Discharge blocks are set into a deep well in the center of the block, and covered with a screw-on cap of molded plastic. It's an arrangement that provides maximum separation between current-carrying parts—hence, greatest protection.

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For indoor installations, the Type 20 Protector is supplied without cover. For outdoor use, it is provided with a big cover, built and finished to battle the weather for many years. (Covers can also be supplied separately, for quick, on-the-job conversion from indoor to outdoor mounting.)

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Mobile Radio Unit Bridges Telephone Lines in Storm

The community of Southport, N. C., for several hours the night of August 1 entirely isolated because of storm damage to telephone wires, was given telephone communication through a unique mobile radio unit, W. B. Bryan, manager of the Southport office of the Southern Bell Telephone & Telegraph Co., announced recently.

Mr. Bryan said Southport ordinarily is served by a line with five circuits.

Mobile radio units, riding on small trailers, were immediately brought in from Raleigh, N. C., and set up at strategic points on the route. The units were placed on each side of the line break, and the gap was bridged by radio circuit.

Service was re-established with Southport the following morning.

The mobile unit, with its transmitter and receiver, was operated by a trained technician from Raleigh and one of the trained men attached to the Southport office.

V V

Promoted to High Post with New York Telephone Co.

Clifton W. Phalen, who entered the telephone business 16 years ago as a lineman in Syracuse, N. Y., was elected, August 9, vice president in charge of personnel of the New York Telephone Co., advancing from assistant vice president.

In 1938 Mr. Phalen was made division construction superintendent for the company's eastern division in Albany and last November was appointed assistant vice president of the New York company.

V V

Nebraska Telephone Leader Resigns

Otto Enerson, for many years an active figure in telephone organization work in Nebraska, resigned recently as secretary-treasurer of the Cedar County Farmers Telephone Co., Hartington, Neb., a position he held for 23 years.

Mr. Enerson, who is 78 years old, has sold his stock in the company and his home, and will move to Pasadena, Calif., soon.

V V

Ohio City Plans Utilities Tax

The Youngstown (Ohio) city council at a special meeting recently referred a proposed utilities tax ordinance to a committee. The tax proposal is a combined consumer commodity tax and a gross receipts tax on utilities, designed to raise more than $300,000 annually for an empty city treasury, it is reported.

Small Exchange Circuit Analysis

(Continued from page 15)

vents the circuit of the tip and ring of the front cord to be open at any time. If this circuit were opened, even momentarily, the selector in the dial exchange would release.

Since the ring-front-listening-dial key functions are all incorporated in one key with dial and listening cam in the same direction, it is apparent that the dial impulses would be transmitted to the operator's circuit. This would not only become very annoying, but also would lower the efficiency of the operator. This undesirable condition is eliminated by relays (B) and (D) of the dial circuit in *Fig. 3*. When the dial is rotated, shunt springs A and B of the dial are closed, placing positive battery on the winding of relay (D), which, upon operating, closes its 11 and 12 contacts, which in turn operate relay (B). Referring to *Fig. 4*, contacts 21 and 22 of relay (B) are connected across the secondary winding of the induction coil at terminals 3 and 4. This will completely shunt out the induction coil. Due to the condenser between induction coil and the cord circuit proper, this direct short-circuit across the induction coil will in no way affect dial impulses to the front cord. Contacts 31 and 32 of relay (D) are connected in series with a 1,000-ohm resistance "R" across the "T" and "R" of the operator's circuit *(Fig. 4)*.

The dial impulses introduced into the cord circuit will necessarily charge any condensers that might be in the circuit, and the capacity of the line itself would retain a charge of current which would be drained off through the secondary of the induction coil, causing a considerable click in the operator's ear. When the dial returns to normal, its contact "B" will open and remove positive battery from the winding of relay (D) which is of the slow release type. Because of this feature, after battery has been removed from the winding, contacts 31 and 32 of relay (D) will remain closed for a brief interval. This holds the 1,000-ohm resistance "R" across the tip and ring of the operator circuit, draining off the current retained by the capacity of the circuit.

When relay (D) finally releases, opening contacts 11 and 12 and removing battery from the winding of relay (B), which is also of the slow release type, relay (B) will also be held op-

How to Decide Things *Now!*

It takes time to call a conference, time for each man to clean up his desk, time for them to gather in another office. Teletalk Amplified Intercommunication Systems allow your subscribers to hold a conference of a number of key executives . . . without any of them leaving their desks.

With Teletalk the flip of a convenient key puts each man within sound of the others' voices. Ideas are exchanged rapidly, decisions are arrived at NOW . . . no confusion, no waiting, no running to and fro.

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Technical information regarding all Teletalk models, their application and installation, can be secured by referring to Sweet's Architectural Catalog, by conferring with your nearest distributor, or by writing to us.

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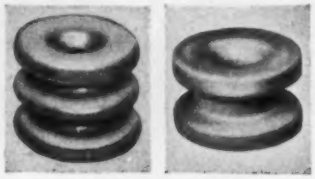
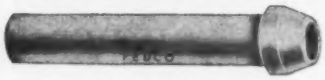


6061 6054

PORCELAIN KNOBS

6066

PORCELAIN TUBES



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INSULATED SCREW EYES

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STRAIN INSULATORS

5/16" and 3/8" hole diam.
PORCELAIN TUBES

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TELEPHONE & SUPPLY CO.
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erated for a brief interval after relay (D) has released, so that by the time relay (B) releases all undesirable current in the circuit will have been drained off. Now the shunt provided by contacts 21 and 22 of relay (B) can be safely removed without causing any undesirable effect in the operator's circuit. All relays and their subsequent operations will take place each time the dial is rotated.

V V

Demand for TELEPHONY Jumps With Excellence Award

Since TELEPHONY received the first prize award for excellence in its classification in the publication contest conducted by the National Council of Industrial Editors' Associations in June, requests have been received for copies of the issue entered in the contest—the *1943 Special Signal Corps* issue—and for copies of regular issues of this publication from magazines throughout the United States. (TELEPHONY, July 1, page 14.)

TELEPHONY was one of the 58 winning publications out of a total of 1,500, which were entered in the contest. Through this nation-wide recognition given to one of its trade journals by the publishing business, we feel the telephone industry itself has been paid a high tribute.

V V

Missouri Company Transfers Two Managers

Walter E. Day, who has been employed as manager of the Lewistown, Monticello and Ewing (Mo.) telephone exchanges of the Western Light & Telephone Co., Kansas City, Kan., recently was transferred to the Clarence (Mo.) exchange.

Stanley Hildman, formerly of Lewistown, has been manager at Clarence and was transferred to the Shelbina (Mo.) exchange.

V V

Urbana (Ohio) Company Retires Two Employes

A. C. Neff, manager for 45 years of the Champaign Telephone Co., Urbana, Ohio, and Miss Mary McClelland, the company's bookkeeper for 40 years, were honored recently by company associates upon their retirement.

Mr. Neff, now on a month's vacation before his retirement becomes effective September 1, will be succeeded by M. B. Wetzell, who has been connected with the company for 18 years.

When You Need POWER..
..to Cut,
..to Twist,
..to Hold,
use BERNARD TOOLS
They Give "More Power to You!"

Send for catalog of the Schollhorn line of BERNARD tools.

THE WM. SCHOLLHORN CO.
TELEPHONE TOOL DIVISION
420 Chapel St. New Haven, Conn.
Exclusive Makers of BERNARD Parallel Action Tools

YOU WOULDN'T HAVE WANTED IT ANY OTHER WAY

Billions of feet of "U. S." wires and cables have been shipped to our fighting fronts . . . wires and cables badly needed by you here at home . . . but indispensable to our Armed Forces.

Much of that huge output was Laytex Wires and Cables, in heavy demand on the domestic front. But you understood . . . you did not question the right of our Army and Navy to every foot of it.

It was natural that Laytex should be required for many military services — communication, signaling, data transmission, searchlight and gun control. For Laytex is an unusual wire development. It is lighter and more

flexible than any other wire of the same capacity. It is especially valuable for military uses in swamps, deserts, rough terrain — even under-water services.

The men and women of the Bristol, R. I. plant of the U. S. Rubber Company, makers of Laytex Wires and Cables, have been given the Army-Navy "E" for a job well done. In expressing appreciation to them we are not unmindful of the share you, our customers, have had in this effort . . . you who have so willingly set aside plans and made the best of it, until Laytex is again available. In the final analysis, you wouldn't have wanted it any other way.

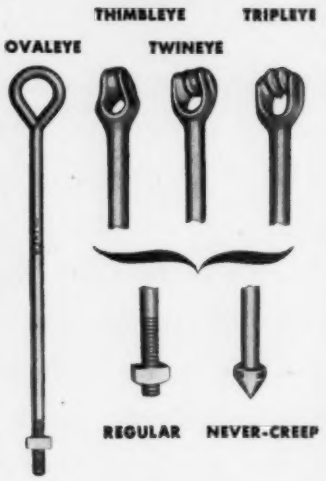
SERVING THROUGH SCIENCE

UNITED STATES RUBBER COMPANY

1230 Sixth Avenue • Rockefeller Center • New York 20, N. Y. • *In Canada:* DOMINION RUBBER CO., LTD.

Listen to the Philharmonic-Symphony program over the CBS network Sunday afternoon, 3:00 to 4:30 E.W.T. Carl Van Doren and a guest star present an interlude of historical significance.

OLIVER
ANCHOR RODS
FOR EVERY CLASS OF SERVICE



Oliver Anchor Rods are made in sizes and types for use with all varieties of expanding and cone anchors and some screw anchors.

Sizes of Oliver Anchor Rods are: diameters, ½ inch to 1¼ inches; lengths 5 to 10 feet. All are of drop forged steel, heavily galvanized.

OLIVER
IRON AND STEEL
Corporation
PITTSBURGH, PENNSYLVANIA
BOLTS . . . NUTS . . . RIVETS
STEEL FASTENERS

C. W. Forbes Moves to Whittier, California

Charles W. Forbes, well known among pioneer telephone men, recently sold his Santa Cruz (Calif.) estate and has moved to Whittier, Calif.

Mr. Forbes had a notable career operating telephone plants in Illinois and California, and had an exciting experience rendering service in an exchange in Mexico until the bandit, Pancho Villa, took over the business. He ran the Manteca (Calif.) Telephone Co. until a few years ago, when he retired.

His many friends all over the country will be glad to hear that Charlie Forbes is well and enjoying a well-deserved rest, although those who knew him best will wonder how long he will be able to resist the lure of getting back in the harness.

V V

Illinois Bell Moves to End Use of Slugs

The Illinois Bell Telephone Co. on July 28 disclosed that it is taking steps to eliminate use in public telephones of slugs which, it was acknowledged, has been "an annoyance to the public and has hurt Chicago's reputation."

Everett C. Friganza, the company's news service director, disclosed that new contracts have been signed with numerous large and small operators of drug and cigar stores, department stores and hotels to eliminate the use of slugs. Under the new contracts, the telephone company assumes losses thru use of illegitimate coins and reduces the commission paid to the store owner from 22½ to 20 per cent.

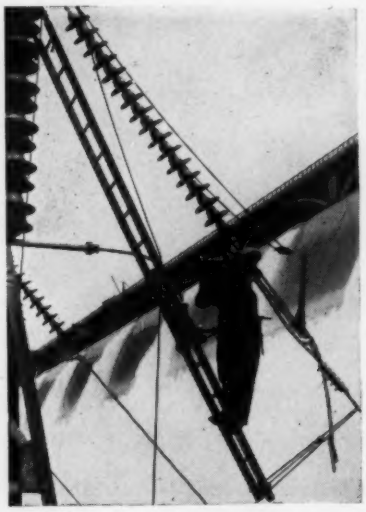
"It is obvious Chicagoans dislike slugs, and we are going to help get rid of them," Mr. Friganza said.

V V

Signed Petition Misstated; New Paper Circulates

Petitions recently circulated around the vicinity of Americus, Kan., stated that the telephone shareholders should give their shares to Donald Brasier, present manager of the Farmers Mutual Telephone Association. In return Mr. Brasier was to spend on the system the $2,000 he previously offered for the telephone exchange. (TELEPHONY, July 22, page 43.)

This petition received the necessary two-thirds signers, but according to legal advice, the proposition was misstated. Instead of reading "petition," it should have read "proxy" or "assignment," giving Mr. Braiser power to vote the two-thirds shares. A new paper is being circulated.



Pictured above is a lineman Ned Ingalls who, with the aid of a Coffing "Safety-Pull" hoist, is man-handling a soon-to-be "hot" wire, as he imitates the "man on the flying trapeze" from his dizzy perch at Grand Coulee Dam.

RATCHET LEVER HOISTS
SPUR GEARED HOISTS
ELECTRIC HOISTS

COFFING HOISTS

We do not claim that Coffing Hoists are the final and perfect achievement, but for 16 years our hoists have been doing their jobs well.

We do claim that Coffing Hoists are the best we know how to build and experience shows them to be generally efficient. (The Army and Navy wouldn't be using them if they weren't.)

We hope that Coffing Hoists are helping to hasten the day of peace—the day our boys can come home again—the day you can call your supplier and say: "Send me a Coffing Hoist"; and your supplier can reply: "Coming right up, brother, we've got 'em in stock."

WRITE TODAY FOR CATALOG No. 000 G-6.

COFFING HOIST COMPANY
Danville, Illinois, U. S. A.

Alvah A. Scott Retires; Avery Appointed Successor

The board of directors of the Mutual Telephone Co., Honolulu, T. H., has accepted, with regret, the resignation of Alvah A. Scott as general manager, his decision to retire having been made on the advice and insistence of his physician. Mr. Scott submitted his resignation as president, general manager and director, effective at the pleasure of the board.

ALVAH A. SCOTT

The directors accepted his resignation only as general manager and deferred action on his resignation as president and director. Changes caused by Mr. Scott's resignation were announced by the directors, who have designated William C. Avery to be vice president and general manager.

The position of secretary, formerly held by Mr. Avery, will be taken by Ballard Atherton, who was also made assistant manager. George Palmer, plant accountant and assistant secretary, was made an assistant treasurer. Mr. Avery continues as treasurer.

Mr. Scott went to the Mutual company from the Honolulu Plantation Co., where he was manager. He joined the telephone company in April, 1939, as vice president and general manager. A year later he became president and general manager.

Upon joining the company he was instrumental in starting a far-reaching program of defensive preparation, realizing how important communications would be to the territory if war came to the Pacific. Expansion of existing outside plant and central office facilities was pressed by Mr. Scott. His program continued up to the time when telephone equipment was converted to war use. Outstanding in this program of expansion was the new modern six-story building in downtown Honolulu.

This book on the care and safe use of tools will be sent on request.

THREE-QUARTERS of a century ago, pioneers who strung the first electric lines recognized that the tools then available were not good enough for the exacting service their work demanded. They came to the little forge shop of Mathias Klein with requests for specially made tools, high in quality—better able to stand punishing service. The small forge shop has grown into a large plant—specifications have changed to meet the new demands of a field that is noted for its improved technology—but the ideal of high quality that Mathias Klein built into his first pair of hand forged pliers is the ideal that is still back of all tools and equipment carrying the name Klein. Today, Klein tools and equipment remain the first choice of linemen—electricians—good workers everywhere.

ASK YOUR SUPPLIER

Foreign Distributor: International Standard Electric Corp., New York

Mathias KLEIN & Sons
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3200 BELMONT AVENUE, CHICAGO 18, ILLINOIS

KLEIN TOOLS EST. 1857

Since 1857

ACORN LONG LIFE DROP WIRE SPANS TODAY'S SHORTAGE

ACORN

INSULATED WIRE

ACORN INSULATED WIRE CO., INC.
225 King Street, Brooklyn 31, N. Y.
Leigh Sales Corp., 427 W. Randolph Street, Chicago, Ill.
Lindsay Supply Co., 4815 Superior Ave., Cleveland, Ohio

HALE
AND HEARTY

AND READY TO WORK FOR YOU!

Crossarms should be made of properly selected stock, adequately seasoned and carefully trimmed and bored.

That's the kind of product every telephone company would like to get when ordering crossarms — and that's just what you *will* get — every time — when you specify crossarms made by

RAINIER

AMERICAN CROSSARM and CONDUIT COMPANY

DISTRIBUTED BY

AUTOMATIC ELECTRIC
SALES CORPORATION

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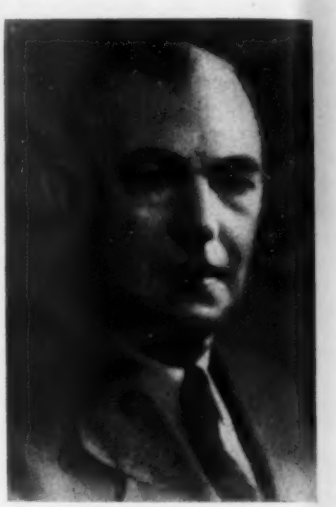
Mr. Scott's recommendation for measures to protect territorial communications in time of war, as well as the complete cooperation with the Army and Navy's own communications, elicited high commendation from both services.



W. C. AVERY

The new vice president and general manager, William C. Avery, is a native of Le Roy, N. Y. Mr. Avery is a graduate of Boston University and started his business career with the New York Central and Hudson River Railway at Rochester. He went to Hawaii in 1912 to take up educational work.

He taught at the Mills School in Honolulu and later became principal of the Kauai High School. In 1917 he was appointed inspector general of schools and statistician for the department of public instruction in the territory. In 1919 Mr. Avery was made executive secretary of the Farm Loan Board of Hawaii, which position he retained until joining Mutual Telephone Co. in 1921 as cashier and accountant.

Two years later he became accounting engineer and in 1926 was made treasurer and director. Prior to his recent appointment, Mr. Avery served as secretary-treasurer and a director of the company. He has been a contributor of technical articles to various publications in the accounting field.

His long service with communications in the territory well fits him for his new responsibilities as general manager of a system that is territorial-wide and has the distinction of being the only American telephone system to operate while under direct enemy attack.

Buy War Bonds

(Photo courtesy SOUTHERN TELEPHONE NEWS)

Pay-station sheds, such as pictured above, are used at Marietta, Ga., at 25 locations in eight war housing projects where individual residential service could not be provided because of the telephone shortage. The 25 telephones serve 2,040 homes, and every home was visited to inform residents of the service. There are also 128 telephones in the 2,040 homes which are for essential use in war industry.

Texas Directory Stresses Service Aids

E. A. Speck, manager of the Gorman (Tex.) Telephone Co., recently sent TELEPHONY a copy of the company's new directory. On the front cover, Mr. Speck stresses an important, time-saving factor with the slogan, "Be Sure of the Number before You Telephone."

In the beginning paragraph on the first page of instructions, he again emphasizes this point to telephone users telling them how one should place a call *after* referring to the new, not old, directory. Mr. Speck states, "For the good of the service, always look up the number before calling."

Another interesting feature of this directory is that after all the listings in each alphabetical section several blank lines are left to be used in entering names of new subscribers or changes in the numbers of any present subscribers.

V V

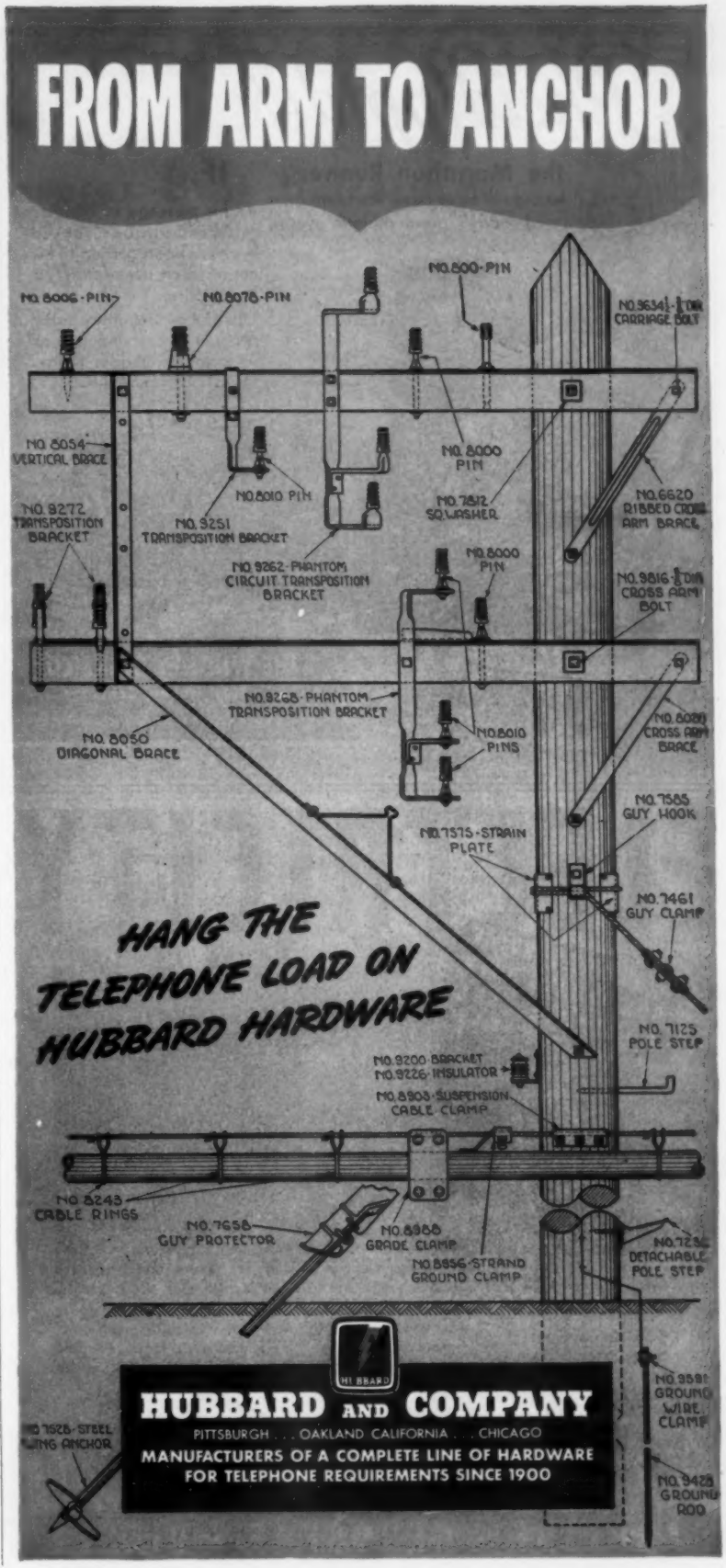
Plains (Kan.) Manager Named

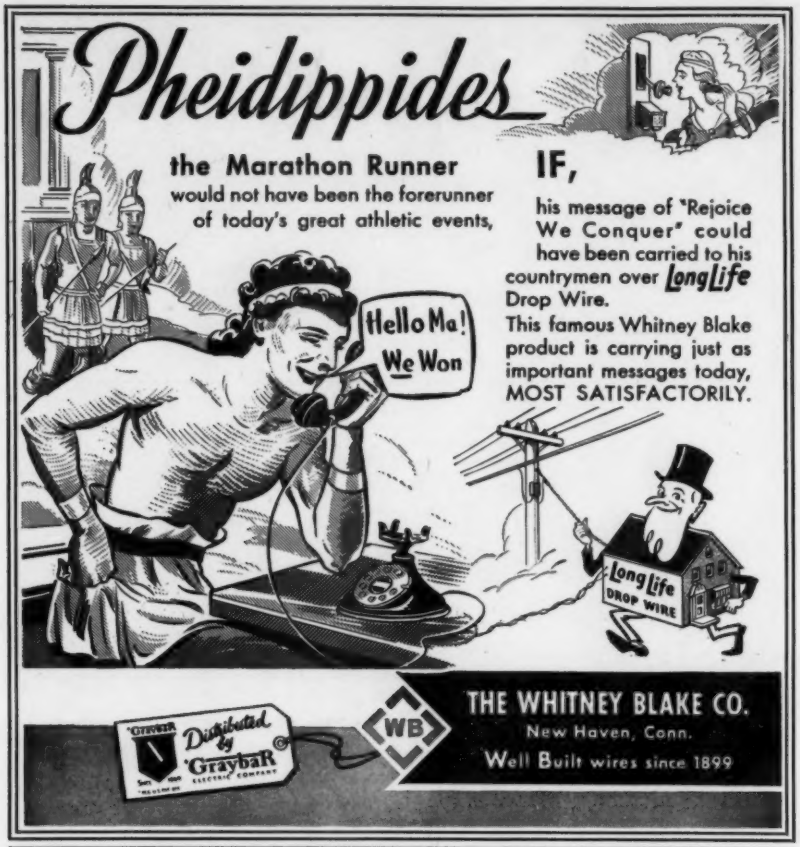
MRS. BUELAH SELLON of Sawyer, Kan., was named to succeed MRS. CARRIE GRINSTAFF and MRS. MYRTA JONES as manager of the Plains (Kan.) exchange of the Southwest Telephone Co. when their resignations became effective August 1.

V V

Buys Minnesota Exchange

JOHN GRIMM, part owner of the Mazeppa (Minn.) Telephone Co. recently bought the outstanding interests in that company and is now sole owner.


FROM ARM TO ANCHOR
NO. 8006-PIN
NO. 8078-PIN
NO. 8000-PIN
NO. 3634½-DIA CARRIAGE BOLT
NO. 8054 VERTICAL BRACE
NO. 8000 PIN
NO. 8010 PIN
NO. 7812 SQ. WASHER
NO. 6620 RIBBED CROSS ARM BRACE
NO. 9272 TRANSPOSITION BRACKET
NO. 9251 TRANSPOSITION BRACKET
NO. 9262-PHANTOM CIRCUIT TRANSPOSITION BRACKET
NO. 8000 PIN
NO. 9816-⅝ DIA CROSS ARM BOLT
NO. 9268-PHANTOM TRANSPOSITION BRACKET
NO. 8050 DIAGONAL BRACE
NO. 8010 PINS
NO. 8080 CROSS ARM BRACE
NO. 7585 GUY HOOK
NO. 7575-STRAIN PLATE
NO. 7461 GUY CLAMP
HANG THE TELEPHONE LOAD ON HUBBARD HARDWARE
NO. 9200 BRACKET
NO. 9226-INSULATOR
NO. 8903-SUSPENSION CABLE CLAMP
NO. 7125 POLE STEP
NO. 8243 CABLE RINGS
NO. 7658 GUY PROTECTOR
NO. 8960 GRADE CLAMP
NO. 8956-STRAND GROUND CLAMP
NO. 7238 DETACHABLE POLE STEP
HI BRAND
HUBBARD AND COMPANY
PITTSBURGH . . . OAKLAND CALIFORNIA . . . CHICAGO
MANUFACTURERS OF A COMPLETE LINE OF HARDWARE FOR TELEPHONE REQUIREMENTS SINCE 1900
NO. 9581 GROUND WIRE CLAMP
NO. 9425 GROUND ROD



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More and more telephone companies are installing stand-by electric plants to insure uninterrupted service. We are supplying many of these plants. Already there are well over 1000 U. S. stand-by units throughout the world at vital radio and communication centers. U. S. Electric Plants are now available on AA3 priority or better. Write for details.
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MOTORS CORP.
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U.S. Electric Plants
GASOLINE • KEROSENE • DIESEL

George Butler Resigns Texas Association Post

Through a letter to President Oscar Burton, under date of August 7, George B. Butler, who has been associated with the War Production Board in Texas, tendered his resignation as executive secretary of the Texas Telephone Association. In part Mr. Butler states:

"Through this letter, I want each of the board of directors of the association to know that I have appreciated the many courtesies shown me. They have been more than considerate of my present situation and have been very kind in giving me an extended leave of absence to work for the War Production Board.

"It is with regret, however, that at this time I desire to tender my resignation as executive secretary of the Texas Telephone Association, effective September 1, 1944. My reason for resigning is that my stay with the War Production Board is indefinite and my work may extend into the early part of 1945."

In March, 1942, Gov. Coke Stevenson selected Mr. Butler, out of perhaps 100 names submitted to him, for the position of secretary of the Texas Salvage Committee. The matter was presented to the board of directors of the Texas Telephone Association at its annual meeting in 1942, and a leave of absence was extended to Mr. Butler, since which time he has worked for the War Production Board. He is now regional salvage director, covering Texas, Oklahoma and Louisiana.

The work that he has done with WPB speaks for itself, and there is no question of the importance of this work toward the war effort. As regional director he brought about a consolidation of the several divisions originally set up by WPB for the collection of scrap materials with a consequent saving of some $75,000 in salaries and traveling expenses for this region alone. Other regions, we are informed, adopted the plan.

Mr. Butler became executive secretary of the Texas Telephone Association in August, 1937. Under his guidance, the association has progressed and increased its service to telephone companies of Texas.

V V

Killed in Action

DONALD G. BELL, former district manager at Hastings, Neb., for the Lincoln Telephone & Telegraph Co., was advised recently by the War Department, that his son LIEUT. WILLIAM BELL, once reported as missing in action, was killed on the Anzio Beachhead in Italy. Lieutenant Bell was a grandson of WILLIAM E. BELL, former general commercial superintendent for the Lincoln company, now retired.

MISS NORMA WINJE, chief operator of the Milan (Minn.) Mutual Telephone Co., was married on June 27 to PFC. EDWARD E. RAU of Appleton, Wis., now stationed at Fort Bliss, Tex. Mrs. Rau has been employed as operator by the Milan company for almost five years.

Kansas Association Receives Signal Officer's Award

At ceremonies held July 31 at Kansas City, Kan., Col. Richard T. Scholsberg presented the Chief Signal Officer's Certificate of Appreciation to the Kansas Telephone Association "for its excellent cooperation and patriotic service to our country. . . ."

President Samuel Tucker accepted the award from the Signal Officer, expressing the thanks of the officers and members of the association. Mr. Tucker said the credit must be given to the men who voluntarily left their homes and friends in order to do their bit for their country in the profession they fully understood.

V V

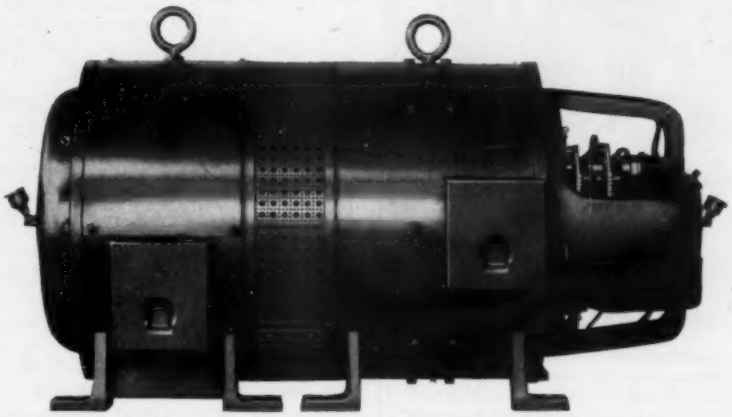
Stimson Appoints Jewett to Postwar Research Committee

Dr. Frank B. Jewett, vice president of the American Telephone & Telegraph Co., chairman of the board of Bell Laboratories and president of the National Academy of Sciences, recently was appointed a member of a committee of scientists and high ranking military officers to make plans for postwar military research.

The committee was selected by Henry L. Stimson, secretary of war, and James V. Forrestal, Navy secretary.

THE DIVERTER POLE MOTOR-GENERATOR

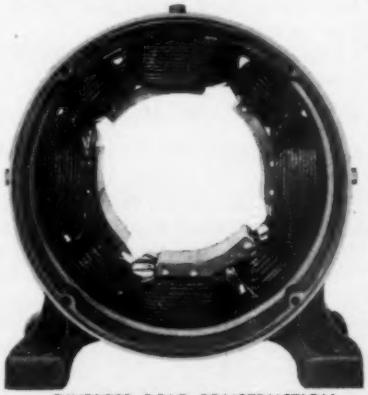
Insures Best Battery Performance



Thru Automatically Controlled Constant Charging Voltage

The Electric Products Company DIVERTER POLE GENERATOR is the preferred equipment for floating charge with Telephone Exchange Batteries because it has the inherent characteristics required to deliver efficient, safe, satisfactory service for long periods of time at minimum operating and maintenance cost—

- Inherently automatic, it insures constant exchange voltage within very close limits on 24 hours duty providing all exchange load requirements and at the same time a safe continuous floating charge to the battery which insures best battery performance.
- It eliminates any manual attention of the charging.
- Specially designed, carefully constructed, adjusted within precision limits and thoroughly tested, The Diverter Pole Generator is both electrically and mechanically quiet in operation.



DIVERTER POLE CONSTRUCTION

- The Diverter Pole Generator protects itself against dangerous overloads. When overloads occur, the voltage automatically drops and the battery carries all load beyond the safe capacity of the generator.
- It is free from any characteristics of "running away" or reversal of polarity in case of power discharge from battery to generator.

These are but a few of the many special features that assure you exceptional satisfaction with the installation of "Electric Products" Diverter Pole Generators.

Write for Bulletin No. 96 for Complete Technical Details

The Electric Products Co.

1739 CLARKSTONE ROAD · CLEVELAND 12, OHIO

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BATTERY
ELIMINATOR

GIVES WORRY-FREE SERVICE

Operates direct from lighting circuit. Delivers constant, humless D.C. to operator's circuit on magneto switchboard. Power-off relay assures uninterrupted service in case of power failure. Low in cost! See your jobber, or write direct for full information.

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Kester SOLDERS

Although all wartime solder is a pain in the neck because of restrictions on the amount of tin that can be used in it —still—Kester solder is uniform, the flux is pure, and it is the choice solder of most telephone men. You'll do better to stick by Kester self-fluxing solders.

★ ★ ★ ★

Another of the Better Quality Products You Always Get from Suttle

DEPEND ON SUTTLE

Answers to Traffic Questions on Page 29

(1) Acknowledge this statement or request suitably. For example: "I'll try it for you;" "Yes, sir, I'll be glad to," or, "I'll try it again," and add, "Just a moment, please?"

(2) An "A" operator is permitted to plug in over the busy in the local multiple to verify. (This condition was formerly referred to the supervisor.)

(3) By the persistent use of one of several phrases: (1) "Do you know the number?" (2) "Shall I give you information?" or (3) "Will you refer to your directory?"

(4) An operator should reach for line signals one whole position to the right and to the left of the position occupied, insofar as this can be done without interfering with the work of adjacent operators. On single answering jack or partial multiple answering jack switchboards, an operator should pass cords for line signals on positions next beyond adjacent positions, but, as a rule, not farther than the middle of such positions.

(5) On all interstate calls on which the initial period is three minutes.

Communication Services Cut To Free German Manpower

New decrees by Paul Joseph Goebbels, Hitler's total mobilization minister, took private telephones from millions of Germans on August 11 and drastically curtailed mail and telegraph services.

The Nazis applied this new pressure to wring the last bit of manpower out of Germany. Minister Goebbels estimated his new service curtailments would free "tens of thousands" for the Army and factories.

V V

Granville (Ill.) Company Incorporates

The Granville (Ill.) Telephone Co. recently was incorporated and issued 40 shares of common stock at $25 per share. Incorporators were Joel W. Hopkins, E. E. Edgerley and Harry L. Packingham.

The Granville company operates in Granville, Mark and Standard.

V V

OBITUARIES

ROYAL S. CHAMBERS, 72, owner of the Nicholville (N. Y.) Home Telephone Co. since 1937, died at his home in that city August 4 following a long illness.

He is survived by his widow; a son, Lt. Royal S. Chambers, Jr., public relations director with the Eighth Service Command, Dallas, Tex.; a daughter, and two sisters.

* * *

JOHN H. SNYDER, 70, secretary and director of the Lavelle (Pa.) Telephone Co., died August 5. He had been ill for several months and submitted to a major operation on May 22.

Mr. Snyder has been chief stockholder, secretary and director of the Lavelle company since it was incorporated in 1908. In that year he was in charge of placing the first telephone line throughout the Lavelle valley and rural area south of Ashland. He also directed the plan whereby the Lavelle system was joined with the Bell Telephone Co. of Pennsylvania at Ashland.

He is survived by his widow, four

TELEPHONE
DIRECTORY
PRINTING

YOU WANT
ACCURACY
ECONOMY
EFFICIENCY

THEY WANT
DURABILITY
LEGIBILITY

The Cuneo Press, Inc. — producing telephone directories for large and small cities — has the experience and equipment to properly handle your directory.

THE CUNEO PRESS INC.
CHICAGO, ILL.
WITH CONVENIENT PLANTS
NEW YORK PHILADELPHIA
MILWAUKEE

daughters, three sons, one sister and five grandchildren.

* * *

MRS. BLANCHE REECE, wife of Harvey T. Reece, president of the Atchison County Mutual Telephone Co., Muscotah, Kan., died August 3 at her farm home near Muscotah. She is survived by her husband, two sons, two brothers and two sisters.

V V

U. S. Rubber Develops Synthetic Insulation

Nubun, a new synthetic rubber latex insulation for power, lighting and communication cable has been developed by the United States Rubber Co., New York, it was announced August 3 by C. W. Higbee, manager of the wire and cable department.

The new insulation is a result of wartime developments in rubber technology being made from a special modification of buna S synthetic rubber.

Made by the latex continuous dip method, Nubun has advantages over ordinary wire where replacement and space are important factors, it is said. Fire alarm, wire and cable police communication systems, as well as other highly essential telephonic systems, will be more easily replaced and serviced and will have greater resistance to destructive forces which cause circuit troubles with the use of this type of wire, it is claimed.

Qualities of Nubun insulation, cited by Mr. Higbee, include flexibility, impermeability to water, laminated construction and perfect centering of the conductor to produce an insulated wire of maximum conductivity with a minimum diameter.

The synthetic insulation is said to be exceptionally homogeneous following vulcanization and has high electrical characteristics such as di-electric strength and insulation resistance. The special synthetic rubber compound is low in specific conductive capacity, has good aging qualities because of the presence of special anti-oxidants and will resist severe wear because by the nature of the latex process, the rubber particles are not distorted or broken down by milling, it is reported.

V V

Davison Receives "E" Award

The Davison Corp.'s plant at Curtis Bay, Baltimore, Md., has been awarded the Army-Navy "E" for outstanding production, according to a recent announcement made by the War and Navy departments.

dependable
Cedar Poles
MICHIGAN POLE & TIE CO.
NEWBERRY—GRAND RAPIDS
MICHIGAN

POLES

B. J. Carney & Co., 100 N. 7th St., Minneapolis, Minn.—Western red cedar poles. Pentrex Butt Treated or Plain.

C. M. Christiansen Co., Phelps, Wis.—Northern White Cedar Poles, plain or butt treated. Quotations on request.

International Creosoting and Construction Co., Galveston, Texas.—Creosoted Southern Yellow Pine Poles. Plants: Beaumont and Texarkana, Texas.

MacGillis & Gibbs Company, Milwaukee, Wis.—Northern White and Western Red Cedar Poles. Plain or butt-treated. Immediate quotations on request.

T. M. Partridge Lumber Co., Minneapolis, Minn.—Northern White—Western Red Cedar Poles. Plain or butt-treated.

Pensacola Creosoting Company, Pensacola, Fla. — Creosoted Southern Pine Poles of Superior Long Leaf Quality.

Valentine Clark Corporation, 2516 Doswell Ave., St. Paul, Minn.—Finished Cedar Poles. Plain or butt-treated.

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Write or Telephone for Proposition
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Appraisals—Original Cost Studies
Depreciation, Financial, and Other Investigations

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WANTED: Telephone Accountant—qualified to supervise all phases of telephone accounting for Class A companies. Give full information as to age, experience, draft status, etc. Attach small photograph. Write Telephone Services, Inc., 16th Floor, Lincoln Tower, Fort Wayne, Indiana.

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POSITION WANTED: Man with manual and automatic central office experience desires position in South America. Write Box No. 2087, c/o TELEPHONY.

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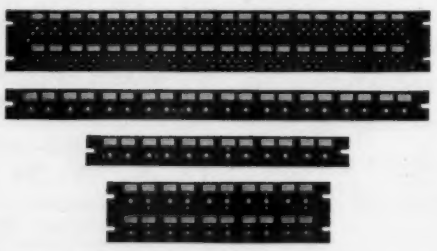

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432
439
440
441

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230
279
346
411

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1000 1001 1002 1003 1004 1005
1006 1007 1008 1013 1014

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COLUMBUS 16, OHIO

Stromberg Plays August Santa To West Virginia Boy

A letter written in a New Guinea jungle to the Stromberg-Carlson Co., Rochester, N. Y., gave the company the opportunity to assume the new and unseasonal role of mid-summer Santa Claus on the occasion of the fifth birthday of a Huntington, W. Va., lad on August 11.

The youngster is John Michael Guilfoyle, Huntington, whose father, Sgt. W. J. Guilfoyle, started the affair in motion early in July with his letter to the 50-year-old communications equipment firm.

The text of Sergeant Guilfoyle's letter follows:

Stromberg-Carlson Co.
Rochester 3, New York
Gentlemen:

I happened to pick up a *Life* Magazine over here in this jungle and when we get something to read we read advertisements and all.

Anyway, to get to the point of this letter, as it is about time for washing-machine Charley, and I want to finish this before I have to run.

I saw an advertisement of yours in the *Life* and I am no flag waver as we don't go in for that much. Anyway, it seemed to hit the spot and I would like to have a picture of it if possible. It is the one of a soldier saying goodbye to his boy. You see I have a son about four that looks just like that kid in the picture. I haven't seen him for almost two years but it sorta made me feel pretty good or bad inside, I don't know which. My son is in Huntington, W. Va. and his name is also Johnny. He has a birthday on the 11th of August and I would like you to mail him an original of the picture if possible. The rank is the same and everything else is just perfect.

If this is asking too much, just forget it, as I know you are a big concern and plenty busy right now, but if you can spare a couple of those pictures, I sure would appreciate it.

Lots of luck and Keep Smiling.

Sgt. W. J. Guilfoyle.

If you send one to my son just sign it Dad with nothing else. His address is:

John Michael Guilfoyle, 10th Avenue, Huntington, W. V.

As the letter requested, a special print of the illustration in the advertisement inscribed "Dad" reached Johnny before his birthday.

V V

Receives Air Medal

LT. S. L. JORDON, 23, of Gastonia, N. C., former installer for the Southern Bell Telephone & Telegraph Co., now a pilot with an Army Air Force flying fortress group based in England, recently was awarded the Air Medal for his part in bombing attacks on Germany and for assisting in the invasion.